

EQulP: Designing a transformative industrial policy package

Content

- I. Introduction, conceptual foundations and summary**
 - 1. The EQulP initiative
 - 2. EQulP: Designing a transformative industrial policy package
 - 3. The structure of this report

- II. Section A: Process for designing a transformative industrial policy package**
 - 1. Step 1: Locate Industrial Policy in National Development Goals
 - 2. Step 2: Craft Industrial Policy Vision
 - 3. Step 3: Define and prioritize specific industrial policy intervention areas based on objectives
 - 4. Step 4: Evaluate current industrial policy package
 - 5. Step 5: Design a New Industrial Policy Mix

- III. Section B: An exploration of industrial policy objectives: considerations for policy design**
 - 1. Increase productive activities
 - 2. Deepen global market integration
 - 3. Maximize domestic value capture
 - 4. Generate productive employment
 - 5. Improve quality of employment
 - 6. Ensure inclusive production
 - 7. Build economic resilience
 - 8. Promote self-sufficiency
 - 9. Improve resource-efficiency & management
 - 10. Reduce pollution

I. Introduction, conceptual foundations and summary

In recent years, industrial policy has experienced a revival and globally reappeared as a central component of development strategies. In fact, the practitioner debate around industrial policies in developing countries has already shifted from questioning whether or “why” industrial policies should be deployed to “what”, “when” and especially “how” they can be designed and implemented more effectively.

However, the development paradigm has changed significantly since the last time industrial policy had its heyday. As the Sustainable Development Goal 9 exemplifies in its notion of “inclusive and sustainable industrialization”, considerations of social inclusion and environmental sustainability are now seen alongside economic growth as core indicators of successful productive development. Secondly, globalization has transformed the production landscape considerably, presenting new opportunities and challenges for developing countries which cannot be tackled with old solutions. This has created a new widespread interest in modern approaches to industrial policy in many low and middle-income countries and a corresponding rise in academic and policy advisory activities in this area. However, most developing countries have not yet been able to design industrial policy packages that are in line with the desired structural transformation of their economies.

Arguably, one reason for this failure is the propagation of a very narrow approach to industrial policy that focuses on economic growth processes, productivity enhancements, and technology and innovation considerations as the most (or only) suitable driver of structural transformation. However, the diversity of developing countries’ ambitions requires a less deterministic technocratic perspective. Industrial policy instruments are not just technical solutions to a problem, they are an inherent component of a normative approach to policy advice and design.

Policy design can be defined as involving “*the deliberate and conscious attempt to define policy goals and connect them to instruments or tools expected to realize those objectives*” (Howlett 2015). The fact that different countries have different policy goals illustrates the importance of country-specific approaches to the selection of industrial policy instruments so that they are fully aligned to national priorities and reflect the shared values and beliefs of policy makers and society. Successful industrial policy therefore requires the acknowledgement that “one size fits all” solutions are not available, neither in terms of laissez-faire deregulation and the exploitation of comparative advantages nor in terms of nurturing infant industries with technology and innovation support.

Many developing countries are not yet in a position to independently manage an effective industrial policy process. The significant gap of industrial policy design and management capacities in developing countries needs to be approached in a pragmatic way. Industrial policy experts and relevant development partners should focus on the required capacity development in this area rather than substituting national policy processes with international experts and nicely drafted policy (research) papers. On this basis, this report provides tools supporting developing countries’ efforts to independently design context-appropriate industrial policy packages that can help them to achieve the structural transformation they envision.

1. The EQulP Initiative

In recognition of the capacity gap outlined above, “EQulP – Enhancing the Quality of Industrial Policies” aims to support policymakers in developing countries to independently and effectively assess and design context-appropriate industrial policy packages that are in line with their development objectives. EQulP aims to strengthen the government’s ability to manage the structural transformation of their economies and to have a larger say in strategy setting, policy formulation and engaging with development partners.

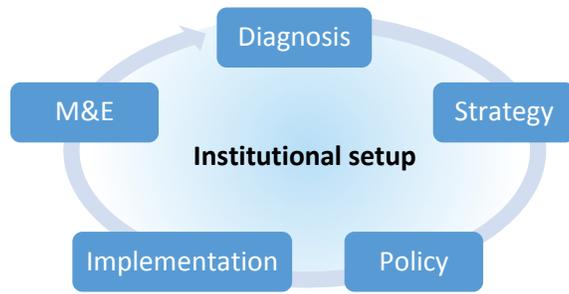
The EQulP initiative is formulated around the notion of the industrial policy cycle. Global experience indicates that a successful industrial policy process begins with a thorough industrial diagnosis that maps the local and global industrial landscape and provides an in-depth understanding of countries’ performance characteristics, constraints, and opportunities in relation to global trends. The *EQulP Toolbox* (www.equip-project.org) is an integrated methodological and capacity-building package for industrial diagnosis. It focuses on a range of analytical tools which can enhance the capacity of industrial policy practitioners to independently and holistically assess their industrial performance across economic, social and environmental dimensions. The findings from this industrial diagnosis can serve as an important foundation for the development of evidence-based strategies that prioritize concrete strategic targets.

EQulP, the subject of this report, explores the **logical connections** between the strategic priorities of a country and the deployment of a tailored package of policy instruments. It does not provide instructions or recommendations for choosing specific priorities or instruments as this process is highly context specific. Hence, *EQulP: Designing a transformative industrial policy package* aims to **enhance the capacity of industrial policy practitioners in developing countries to independently design context-appropriate industrial policy packages which effectively contribute to their broader development objectives.** .

Once industrial policy instruments have been assessed, selected and combined in the form of a policy package they then need to be implemented effectively. Finally, the industrial policy cycle is closed by monitoring and evaluation (M&E), which provides a feedback into the diagnosis and strategy/policy design phases to ensure an iterative and adaptive process which can contribute to the successful structural transformation of an economy. M&E is however not to be approached as an afterthought to policy design but needs to be considered throughout the policy cycle. For instance, the definition of key performance indicators and the calculation of baseline values for those needs to happen during the design of interventions, not afterwards.

To ensure that all stages of the policy cycle are successful, the process must be backed by suitable institutional structures. The *EQulP Institutional Set-up Manual* focuses on the creation of these structures and hence relates to all phases of the policy cycle.

EQulP and the industrial policy cycle



2. EQUIP: Designing a transformative industrial policy package

This report is oriented towards industrial policy practitioners and attempts to provide hands-on solutions to common practical challenges. Accordingly it is not an academic, exhaustive exploration of industrial policy design. Rather, this report places a premium on practical relevance and accessibility. The process and information presented here are meant to be applied within a capacity building context, wherein policy practitioners are supported over a long period of time to systematically apply their country specific knowledge to assess, select and combine suitable policy instruments in an effective manner.

Strengthening the capacity of the real decision makers is a necessity for any effective and sustainable policy process. The comparatively small policy space in industrial policy in developing countries makes this even more essential. Building a solid understanding and commitment to a unique industrial policy vision is the only way to effectively create the space needed so that developing countries are able to mold and direct their economies in line with their needs and objectives. Accordingly, this report is of limited value for a desk-based design of a policy package. It is meant to support industrial policy actors in structuring a consistent decision making process that contemplates, discusses, rejects and adapts any number of the notions and arguments presented. The process has to be based within the framework of a serious stakeholder dialogue that provides the space to include the knowledge and opinions of various ministries, agencies, private sector representatives and civil society organizations of relevance to industrial policy.

Effective industrial policy also requires a long-term perspective (e.g. 5, 10 or 20 years), a strong dedication to experimentation and learning as well as the willingness to adapt to changing circumstances, challenges and opportunities. This report can hopefully support the industrial policy managers of developing countries in initiating this process, and provide a resource and new ideas during the review or adaptation phase.

The EQUIP industrial policy design tool outlined in this report has three core foundations:

Foundation 1: There are a variety of industrial policy objectives and structural transformation visions

Industrial policy is most commonly understood as the set of interventions governments deploy to influence the structural transformation of their economy. Historically, industrial policy was mainly used to promote a structural change trajectory characterized by a shift towards more productive economic activities. Usually this process of “growth-enhancing structural change” (Rodrik & McMillan) is described as a transition from subsistence agriculture to modern activities in manufacturing and tradable services. According to this notion, if labor moves from lower productivity sectors to higher ones, “structural change goes in the right direction and contributes to overall productivity growth” (Rodrik & McMillan).

However, if we acknowledge that government policies are meant to support societies in reaching their widespread objectives, a singular “good” type of structural change path cannot be a standardized aim. Policy practitioners do not operate in the world of abstract economic theory, but are rather acting on the basis of a multidimensional target system, which typically consists of various inter-connected economic, social and environmental considerations. This implies that it is necessary to leave significant space for an individual country to define its own

structural change narrative that builds the foundation for a consistent industrial policy mix. This narrative can go significantly beyond the notion of “productivity enhancement”.

Industrial policy¹ can therefore be understood more concretely as the Government promoting a structural transformation through support of economic activities that are perceived to be socially beneficial, thereby acknowledging the multitude of motivations that a country might have for supporting particular activities or sectors, depending upon their national context and ultimate objectives.

This definition acknowledges that selectivity is an important feature of industrial policy as the promotion of a specific structural transformation vision necessarily involves the definition of specific target groups (e.g. in terms of priority sectors or types of firms). While some countries may want to take a broader (or more horizontal) approach, others will opt for a larger degree of selectivity (or vertical interventions). This report introduces these selectivity considerations when the definition of target groups is presented.

Definitions of industrial policy terminology in this report

National Development Goals
<ul style="list-style-type: none">• The major development priorities of a country that reflect societies' needs and desires
Industrial Policy
<ul style="list-style-type: none">• Government promotion of structural transformation through support of economic activities that are perceived to be socially beneficial
Industrial Policy Objectives
<ul style="list-style-type: none">• Explicit goals that relate to specific dimensions of the desired structural transformation trajectory of an economy
Industrial Policy Vision
<ul style="list-style-type: none">• A short statement which outlines the type of structural transformation envisioned for the country and how the achievement of the prioritized industrial policy objectives will contribute to the national development goals of the country
Industrial Policy Intervention Area
<ul style="list-style-type: none">• A concrete change in the productive sector that is deemed essential to achieving an industrial policy objective

¹ There are multiple definitions of industrial policy in the current literature. Some definitions are based on a narrower notion of structural change from agriculture towards manufacturing (and sometimes services) or within manufacturing from low technology to high-technology sectors. The definition here is more flexible so that it can be adjusted to specific country contexts (e.g. which sectors are perceived to be more beneficial can vary among countries). The notion of “socially beneficial” does not only refer to social development outcomes (e.g. inclusiveness, equality, etc.) but to any objective that a given society strives to achieve (e.g. economic growth, environmental protection, etc.).

Industrial Policy Instruments

- Specific government interventions that contribute to the achievement of industrial policy objectives by influencing the behavior of economic actors

Industrial Policy Target Groups

- The economic actors whose behavior is modified by industrial policy instruments to achieve the prioritized objectives

Industrial Policy Design

- The deliberate and conscious attempt to define industrial policy objectives and connect them to the Industrial Policy instruments expected to realize those objectives

Industrial Policy Package

- A set of industrial policy instruments that jointly aim at achieving the desired structural transformation of an economy

There is a variety of reasons why governments may want to take a more active role in the structural transformation process of their economies. For some countries, industrial policy is an important tool for moving beyond the middle-income trap or a resource-based production trap they find themselves in. While for others, industrial policy is a way to rectify or prevent an economic growth trajectory that is accompanied by persisting levels of poverty, inequalities and environmental degradation which society deems unacceptable. This leaves significant space for an individual country to define a unique tailor-made structural transformation vision that is in line with its society's current needs and desires for the future and to construct industrial policy packages accordingly.

If we understand ***industrial policy design as the deliberate and conscious attempt to define industrial policy objectives and connect them to the Industrial Policy instruments expected to realize those objectives***, the currently dominant approach to Industrial Policy is highly problematic as it limits industrial policy to a very narrow one-dimensional economic arena whereby the major policy objectives (e.g. productivity-based growth) are already implicitly assumed and instrument choice is seen as a mechanistic process of "getting things right".

This EQuIP tool strives to bring a more diverse range of potential industrial policy objectives to light, to assist countries to consider and to define the objectives that are most appropriate for their national context as well as to provide a convincing logic to substantiate their unique structural transformation vision. ***Industrial policy objectives can hence be understood as explicit goals that relate to specific dimensions of the desired structural transformation trajectory of an economy.***

The following 10 exemplary industrial policy objectives have been drawn up on the basis of a significant amount of research on the various motivations that governments have pursued (sometimes implicitly) within their structural transformation process. The aim of this list is to stimulate a more balanced discussion and consideration of issues, but not to be exhaustive in terms of possible objectives or to be prescriptive in terms of the need to pursue all of them at the same time.

The variety of industrial policy objectives



Foundation 2: There is a large variety of different instruments that can be employed to achieve industrial policy objectives

Once a country has clarity on the specific industrial policy objectives, interventions that can realize those objectives will need to be put in place. For the past few decades, the international community has advocated for a very narrow set of economic policy instruments as the “silver-bullets” for development. The re-emergence of industrial policy represents a demand for greater self-determination and experimentation in economic development. Despite this movement, there remains a temptation amongst industrial policy experts to promote the universally “best” policy instrument for any and every country. However, no single industrial policy instrument is inherently good or bad, its success or failure will depend upon its form, objective and implementation. For example, a cash grant can be oriented towards any objective, be it employment or export promotion and its positive or negative effects will depend on who receives the grant, how and for what purpose. Furthermore, research shows that a complementary mix of instruments is generally more effective than a single instrument or a random collection of instruments.

This EQuIP tool thus tries to support policy makers to consider a variety of industrial policy instruments and presents a structured method for independently assessing and combining instruments into coherent packages that logically connect to the prioritized objectives. In this context ***industrial policy instruments are understood as specific government interventions that contribute to the achievement of industrial policy objectives by influencing the behavior of economic actors.***

In order to encourage greater consideration of alternative industrial policy instrument options, the EQuIP tool contains a classification device of different *types of* instruments. Depending on the power that the government deploys in an intervention, we can distinguish between regulations, (dis)incentives, information or public goods and services instruments:

Types of industrial policy instruments and selected examples

<p>Regulations: Formulated rules and directives that mandate economic participants to act in accordance with what is ordered in those rules or directives.</p>	<ul style="list-style-type: none"> • <i>business start-up regulations</i> • <i>environmental regulation</i> • <i>export bans</i> • <i>anti-trust laws, labour regulations</i> • <i>intellectual property laws</i>
<p>Incentives/Disincentives: The handing out or taking away of material resources to encourage certain behaviors by economic participants.</p>	<ul style="list-style-type: none"> • <i>cash grants</i> • <i>preferential lending</i> • <i>tax exemptions, asset depreciation</i> • <i>tariffs and customs duties</i> • <i>sales taxes</i>
<p>Information: The collection, dissemination and publication of information in an effort to promote particular economic activities</p>	<ul style="list-style-type: none"> • <i>trade fairs</i> • <i>economic and business information</i> • <i>data banks</i> • <i>technology and management services</i>
<p>Public goods and services: Government's establishment of enterprises and/or direct supply or demand of particular goods and services</p>	<ul style="list-style-type: none"> • <i>State-Owned Enterprises</i> • <i>public procurement</i> • <i>infrastructure development</i> • <i>industrial zones/parks</i> • <i>public works employment</i> • <i>public universities and training institutions</i>

EQuIP highlights these different types of instruments to encourage policy makers to consider alternative or complementary types of industrial policy instruments within their policy package. On the basis of this classification scheme, EQuIP presents a long-list of industrial policy instruments for consideration and provides a structure for policy makers to think through the intervention logic which connects how the shape and form of a particular instrument relates to their prioritized objectives. This approach is meant to assist decision makers to independently assess and craft instruments that are appropriate for their context and vision.

Foundation 3: Constructing an industrial policy package is complex and what is needed is a simple and intuitive method for tackling this complexity

Building an effective and transformative industrial policy package is a very complex but important task because the successful structural transformation of an economy requires a strategic and concerted effort by the government. However, too often, developing country governments rely on outside experts to conceptualize and draft their industrial policy programs because the complexity of the task seems daunting. This leads to situations where the industrial policy design process is not embedded in local knowledge, thereby undermining its sustainability and frequently resulting in policy proposals that do not reflect local values or objectives.

This phenomenon is further exacerbated by a widespread tendency to favor replication over experimentation in the industrial policy instrument selection process. Many countries continue to emulate international “best practice” projects and programs rather than engaging in a long-term process of iterative industrial policy design. However, the rollout of standardized solutions has not been effective in many developing countries. What is required is a more flexible approach whereby various options are considered, re-evaluated and adapted so as to develop

tailor-made industrial policy packages that are embedded in local understanding and reflective of national context, values and objectives.

There is no lack of complicated technical papers on individual economic policy mechanisms nor a lack of advice on the deployment of specific instruments. What is missing is a tool that can help countries to independently assess the applicability of various industrial policy instruments and to craft an industrial policy package which can promote the desired structural transformation of the country. What is needed is a simple and intuitive method which can empower industrial policy practitioners to independently and effectively assess and design policy packages that are in line with their unique development goals. The EQuIP tool aims to fill this gap by presenting an industrial policy design process and a significant amount of balanced information on various industrial policy options that can help to stimulate creative thinking and encourage greater self-determination.

3. The structure of this report and executive summaries of Section A and Section B

The EQUiP tool consists of two sections. **Section A** presents a structured method for designing context-appropriate industrial policy packages, which are in line with national development priorities. **Section B** contains an exploration of different potential industrial policy objectives, intervention areas and examples of instruments. The **Annex 1** contains a long-list of over 300 industrial policy instruments for further consideration. These instruments are clustered according to the 10 IP objectives, which are explored in Section B. The **Annex 2** provides some additional details on a selection of regulations, incentives, information and public goods and services that could be considered as interventions for the objective 1 “increase productive activities”

Connection between Section A, Section B and the Annex

Section A of the EQUiP Report outlines a series of steps and guiding questions that can help policy makers to effectively design a goal-oriented industrial policy package. Section A outlines a generic industrial policy design process which is highly flexible and adaptable so that any country could follow and align the steps with their unique objectives and context. Section B has been designed to help supplement this process and encourage a consideration of a variety of potential objectives, intervention areas, target groups and instruments. Therefore, Section B outlines ten common industrial policy objectives which span across social, economic and environmental dimensions of development so as to stimulate creative thinking and provide some starting points for policy makers, according to different objectives, as they go through each step of the policy process outlined in Section A.

As this report is written as a basis for a capacity building process, Section A would be introduced at the beginning of the workshop or training course and would help to structure the process of designing a policy package jointly with participants from a country. During this process, the information contained in Section B and the Annex would be introduced selectively to trainees in order to stimulate discussions and deliberations on specific objectives, intervention areas, target groups or instruments that are of immediate relevance to the country context. For example, if trainees highlight the relevance of objectives 1, 5, 7 and 9 for their country, the respective sub-sections of Section B and the relevant parts of the Annex would be used to delve deeper into these issues and to discuss possible synergies and trade-offs among them.

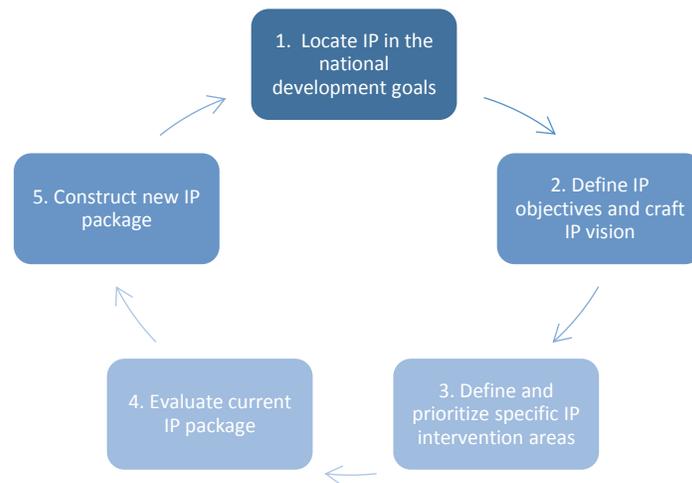
Summary of Section A: Process for designing a transformative industrial policy package

There remains a large amount of confusion surrounding industrial policy design. At present, most discussions of industrial policy instruments are “supply-driven”, with industrial experts and donors describing individual instruments (e.g. export-processing zones, vocational training, grant schemes for “green technologies”, etc.) in detail and justifying them on the basis of their strengths. This approach has undermined a solid understanding of an intervention logic, which spells out exactly how industrial policy objectives, intervention areas and individual instruments relate to one another.

This confusion commonly manifests in industrial policy instruments being formulated on the basis of an appreciation of the quality of the solutions being “offered”, rather than an appreciation of their contribution to development objectives. This has led to a situation where various government interventions are labeled as “industrial policy instruments” and then justified under a number of objectives. Simply suggesting and implementing more (or better) instruments will arguably not bring about the desired structural transformation. To increase

effectiveness, a more solid and systemic understanding of how various industrial policy instruments are expected to contribute to specific development priorities is needed.

Section A outlines a hands-on, goal-oriented approach to industrial policy design. This methodology will help guide policy makers through the process of identifying their core industrial policy objectives, considering the major changes required to achieve these objectives, assessing their current policy package and then constructing a new industrial policy package that is fully aligned with their objectives. The approach outlined in this section is meant to help in the construction of an industrial policy narrative which can promote greater cohesion in the policy package by providing more structured criteria for assessing, selecting and combining instruments by focusing on their desired outcomes.



Designing an industrial policy package – a goal-oriented process

The major benefits of this industrial policy design process can be summarized as follows:

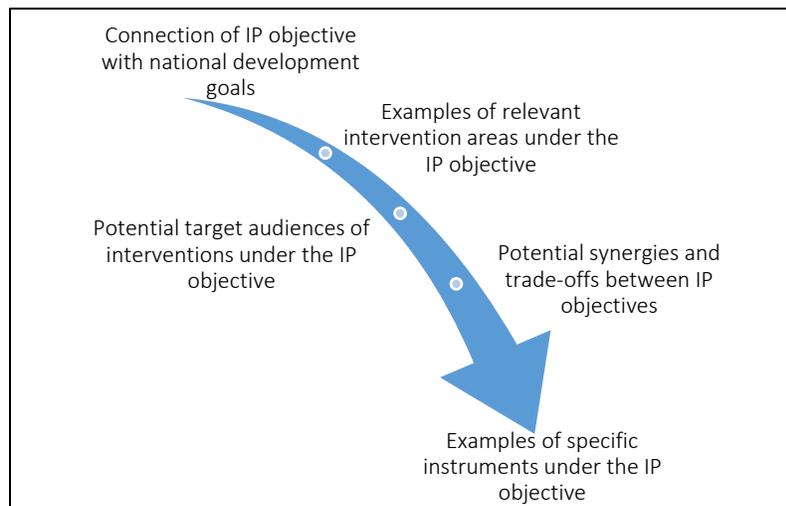
- Increases government transparency and legitimacy by providing an explicit and persuasive rationale for industrial policy instrument choice
- Promotes greater cohesion in the policy package by providing more structured criteria for assessing, selecting and combining industrial policy instruments
- Encourages policy makers to explore how different instruments could be used together to achieve their ultimate objective
- Provides a framework for assessing a country's current industrial policy package in accordance with broader national development objectives
- Ensures a context specific industrial policy package which is aligned to national priorities
- Helps policy makers to craft a persuasive industrial policy vision that can garner the social and political support needed for successful industrialization

Summary of Section B: An exploration of industrial policy objectives

In order to support more creative thinking in the industrial policy design process, Section B explores a variety of common industrial policy objectives that relate to economic, social and environmental considerations of productive sector development. This section outlines a diverse range of motivations to engage in industrial policy as well as a range of related intervention

areas and examples of instruments that countries could consider as options when designing their industrial policy packages. Each sub-section focuses on a different objective that may require government interventions, covering all ten industrial policy objectives introduced above.

Each of these ten objectives are examined within Section B and include an exploration of how the objective connects with larger **national development goals**, which **intervention areas** relate to the objective, which **target groups** could potentially be considered when crafting instruments, which potential **synergies and trade-offs** between different objectives could occur and which different types of specific **industrial policy instruments** could contribute to the objective.



Considerations discussed with regard to the 10 IP objectives

It is important to acknowledge that Section B is neither exhaustive nor prescriptive. It is very likely that additional industrial policy objectives need to be considered and that different concrete intervention areas would be considered most relevant on the basis of specific country contexts. Accordingly, the instruments illustrated here should also not be considered more or less appropriate than the ones which are not discussed (or which are included in the annex). Rather, Section B is meant to supplement the more generic industrial policy design process presented in Section A by exploring a variety of different objectives and instruments which can be considered so as to encourage creative-thinking and more innovative approaches to the assessment, selection and combination of policy instruments.

Overview of industrial policy objectives and intervention areas

#	IP objective	Description and intervention areas
1	Increase productive activities	When industrial policy is considered or implemented in developing countries, the most common objective is to <i>increase productive activities</i> in the economy. A major development challenge faced by many countries is that their production is very small in scale and is concentrated in a few activities, which results in low-value added and low incomes deriving from production. Interventions which relate to increasing firm <i>productivity, demand for domestic products or moving into the production of new goods and services</i> could be considered

		under this objective.
2	Deepen global market integration	Due to increasing globalization, a common industrial policy objective is to <i>deepen global market integration</i> . Many developing countries do not yet benefit significantly from global trade opportunities, international investment flows or the activities of multinational enterprises. Selling to the international market, accessing foreign inputs, connecting to global value chains, or attracting foreign investors can compensate for small domestic demand and productive capabilities. Interventions that aim to increase <i>exports, attract foreign investment or to increase cooperation with international firms</i> could be considered under this objective.
3	Maximize domestic value capture	Many developing countries are striving to increase the amount of <i>domestic value capture</i> arising from productive activities by strengthening domestic linkages and reducing leakages. In a context of increased global integration, even if countries manage to produce more this does not guarantee that the generated value is captured locally. This can be due to a high degree of foreign ownership or excessive reliance on foreign inputs and export at the expense of higher domestic linkages and consumption. Interventions that aim to <i>strengthen national value chains, increase domestic ownership, reduce imports or increase the embeddedness of foreign firms</i> could be considered under this objective.
4	Generate productive employment	Many developing countries are struggling with a large share of their population being stuck in rural subsistence activities and informal services despite high levels of growth. Hence the <i>generation of productive employment</i> opportunities that offer greater prospects for rising incomes is a common industrial policy objective. Interventions that aim to <i>increase the labor demand in productive activities, the number of skilled workers</i> or that <i>improve the matching of jobs and workers</i> could be considered under this objective.
5	Improve quality of employment	Low earnings are a major determinant of poverty in developing countries and rising incomes from remuneration can lead to higher purchasing power which is vital for poverty alleviation and a stimulus of aggregate demand in the economy. Additionally, there is increasing concern about a “race to the bottom” in regards to employee benefits and health and safety considerations in production that ultimately end up undermining the social “development” benefits of structural transformations. Therefore, <i>improving the quality of employment</i> is an increasingly relevant industrial policy objective for many countries. Interventions which aim at <i>higher wages, better working conditions or more employment benefits</i> could be considered under this objective.
6	Ensure inclusive production	Recent history has witnessed many developing countries experiencing high growth rates that correspond with rising inequalities because large segments of the population are excluded from participation in productive activities. This leads to certain groups being trapped in poverty on the basis of their geographic location or demographic identity (e.g. gender, ethnicity, age). Promoting <i>more inclusive</i>

		<i>productive activities</i> has thus become a pressing issue for industrial policy makers that are concerned with inequality. Industrial policy interventions which aim to influence the <i>regional distribution of production</i> or the <i>inclusion of disadvantaged social groups</i> can be relevant for this objective.
7	Build economic resilience	The recent global economic crisis has illustrated the potential downsides and risks of increased global market integration. Many developing countries are highly dependent on a limited set of productive activities, which makes them highly vulnerable to external shocks. Moreover, the increasing frequency of natural disasters and other effects of climate change have significantly undermined sustainable growth for many nations. As a result of these trends, many countries have started to prioritize <i>economic resilience</i> as a core industrial policy objective. Interventions under this objective could aim to <i>diversify domestically produced goods or sales markets, reduce industrial concentration to foster competition, diversify input sourcing or better adapt productive activities to climate change.</i>
8	Promote self-sufficiency	Many developing countries have significantly increased their reliance on imports for strategically relevant consumer goods and inputs required for production. This does not only minimize domestic linkages and value capture but also increases exposure to external risks significantly. Additionally, many countries have begun to worry about the deterioration of traditional craftsmanship and cultural industries as a result of rising imports and global standardization. For this reason, developing countries may prioritize <i>promoting self-sufficiency</i> as a core industrial policy objective. Interventions which aim to <i>increase the domestic supply of critical inputs for production, the production of strategically relevant goods and the preservation of cultural industries</i> could be considered under this objective.
9	Improve resource efficiency & management	Developing countries commonly rely on highly resource intensive production processes, which leads to a rapid depletion of resources, environmental degradation and high production costs. Many countries therefore have to prioritize <i>improved resource efficiency and management</i> within their industrial policy packages. Interventions that aim to <i>encourage firms to adopt more resource efficient technology or to improve resource management in accordance with the eco-system</i> could be considered under this objective.
10	Reduce pollution	One of the most detrimental effects of an expansion of production is on the natural environment. Consequently, a <i>reduction of pollution</i> from production is an increasingly important consideration for developing countries as they craft their industrial policy packages. Interventions which aim to <i>reduce levels of pollutants originating from productive activities, increase the production and consumption of “green” goods and services and improve waste management</i> could all be considered under this objective.

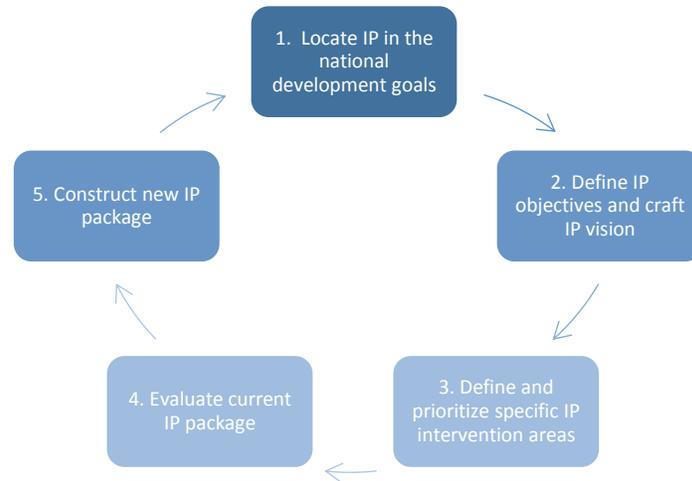
I. Section A: Process for designing a transformative industrial policy package

Industrial policy design is a challenging task for many developing countries. Various industrial policy instruments are propagated by the development community and international experts by highlighting their respective strengths. But a case by case deployment of these “silver bullets” is problematic if we understand industrial policy design as **the deliberate and conscious attempt to define industrial policy objectives and connect them with the industrial policy instruments expected to realize those objectives**. An effective industrial policy package requires a solid understanding of an intervention logic, which spells out exactly how industrial policy objectives, intervention areas and individual instruments relate to one another. The implementation of individual instruments in isolation can sometimes lead to confusion.

This confusion commonly manifests in industrial policy instruments being chosen in a piecemeal fashion in order to tackle one specific perceived issue at a time with the best “offered” solution. This “troubleshooting” approach stands in contrast to a more systemic process to design a country-specific, goal-oriented, industrial policy package that is outlined here. Industrial policy is generally oriented towards medium to long-term economic objectives that require strong political commitment and coordination in order to be effective. Moreover, nowadays governments face a major challenge in creating the required “policy space” needed to effectively influence the structural transformation of their economies through industrial policy. Therefore industrial policy, perhaps more than any other policy area, requires a highly context-appropriate, strategic and coherent policy package. The approach outlined in this section is meant to help in the construction of a country specific industrial policy vision which can promote greater cohesion in the policy package by providing more structured criteria for assessing, selecting and combining instruments by focusing on their ultimate objectives.

This section presents a hands-on, goal-oriented approach to industrial policy package design. The steps presented will help guide policy makers through the process of identifying their core industrial policy objectives, considering the major changes required to achieve these objectives, assessing their current policy package, and then constructing a new industrial policy package that is fully aligned with their objectives.

Designing an industrial policy package – a goal-oriented approach



The figure above illustrates the main steps that we suggest for a goal-oriented approach to industrial policy design:

- **Step 1:** guides practitioners through the process of considering which **national development goals** can **industrial policy** most effectively contribute to, and how the interaction between industrial policy and other policy areas could affect the realization of these goals
- **Step 2:** presents a method for defining and choosing amongst **industrial policy objectives** and crafting an **industrial policy vision** which outlines the types of structural transformation envisioned for the country and how the achievement of the prioritized industrial policy objectives will contribute to the development goals of the country
- **Step 3:** helps to consider and prioritize **concrete intervention areas** (which are defined as concrete changes in the productive sector, which are deemed essential to the achievement of the industrial policy objectives). Industrial policy instruments are then deployed to incite these concrete changes.
- **Step 4:** provides a structured method for assessing countries' current **industrial policy package** in accordance with their prioritized objectives
- **Step 5:** outlines a structured method for selecting and combining instruments in a **new transformative industrial policy package**

This design process is not meant to be an academic exploration of how to choose the “best” policy instruments, but rather it is meant to facilitate a self-determined design and evaluation process, thus encouraging greater confidence and effectiveness in industrial policy decision-making and design. Therefore, the process and information outlined below is catered towards policy makers and the language and criteria are meant to be as simple and intuitive as possible.

There are four core principles that underpin the EQUiP industrial policy design approach:

1. The process of designing an effective and purposeful industrial policy package is inherently **iterative**, meaning that policy makers will continuously need to revisit various steps in this process as they experiment and learn from past initiatives. Therefore, the steps outlined in this report should not be taken as a definitive sequence. When changes in the national context, objectives, information, etc. occur, policymakers will

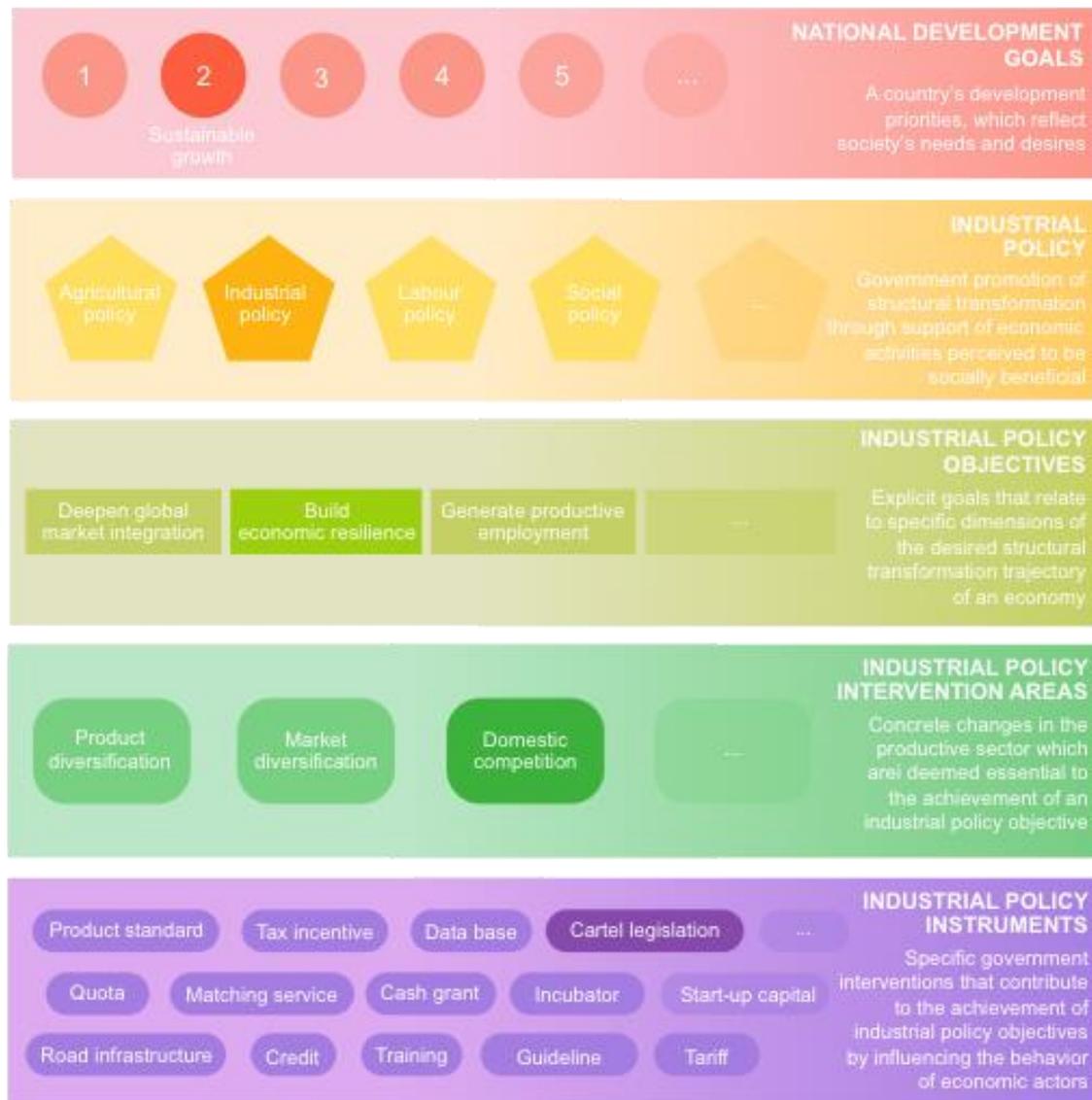
need to revisit various steps to assess whether the intervention logic underpinning IP instrument selection still holds. In order to maintain or re-establish an effective policy mix, adjustments to instruments, prioritized objectives or outcomes, target groups, etc. may be necessary.

2. Meaningful engagement and consultation with relevant stakeholders is the cornerstone of successful industrial policy design. In order to ensure that an industrial policy package reflects the structural transformation desired by society, it is critical for governments to continuously consult with stakeholders from government, business and society. Relevant stakeholders will include those who are contributing to or undermining industrial policy objectives as well as those who will be positively or adversely affected by their realization. Ensuring continuous **stakeholder consultation** at all stages of the industrial policy design process improves appropriate instrument selection, policy success, trust in the government and knowledge sharing amongst public, private and civil-society organizations. *NOTE: See EQUiP Institutional Set-up Toolbox for more information on how to effectively promote stakeholder consultation and effective implementation.*
3. Global experience has shown the importance of an **evidence-based approach** to industrial policy design. The process of designing industrial policy interventions can be greatly improved by analyzing and consulting past and current trends in the productive sector. Many developing countries rely on external consultants to conduct an analysis of their economies, identify trends and potential points of intervention. However, ensuring that these performance indicators are produced within the country ensures that there can be continuous monitoring of performance and a solid understanding of what these indicators mean and how interventions could be employed to correct negative trends or boost positive trends. *See the EQUiP Toolbox for indicators that can be used to assess the economic, social and environmental performance of industry.*
4. A transformative industrial policy package should be designed through a **“goal-oriented” intervention logic**, since we understand industrial policy design as the deliberate and conscious attempt to define industrial policy objectives and connect them with the industrial policy instruments expected to realize those objectives. Intervention logics or theories of change spell out the connections and are commonly “instrument-oriented”. This means that a particular instrument is chosen and justified on the basis of its connection to various objectives. By following a “goal-oriented” approach policy makers are able to more strategically identify and prioritize **industrial policy objectives and intervention areas**, and consider potential **trade-offs and synergies** so that the resulting industrial policy package of **instruments** jointly contributes to broader **national development goals**.

On the basis of this understanding, the EQUiP industrial policy design process outlines a more systematic and pragmatic approach tackling this complex task by guiding policy makers through the development of an intervention logic that serves as the foundation for the development of a new industrial policy package. The **figure below** illustrates the main levels of inquiry that policy makers will be taken through in this industrial policy design process. Throughout the following steps, we will see how a fictional country, Country A, is able to use the steps outlined in the

industrial policy design process to effectively design a goal-oriented, transformative industrial policy package.

Levels of the industrial policy design process²



Step 1: Locate Industrial Policy in National Development Goals

Industrial policy does not exist in a vacuum but is rather one tool that a national government has to achieve within its broader development goals. Therefore, it is important for policy makers

² The EQUiP Diagnostic Toolkit includes quantitative methodologies that can inform the decision making process with regard to the levels of industrial policy objectives and intervention areas. A comparative assessment of the industrial performance of a country in the various performance dimensions that are covered in the EQUiP modules 1-7 can help to prioritize among objectives, while the analysis of the drivers of performance in modules 8-9 can inform the choice of intervention areas. The description of steps 2 and 3 below make reference to the EQUiP Toolkit accordingly.

to be clear on which national development objectives could *most effectively* be pursued by industrial policy and which complementary policies would be required by other ministries to ensure success.

- **Map the national development goals**

Most, if not all, countries have an overarching national development plan, which is comprised of national development goals. ***National development goals can be understood as the major development priorities of a country that reflect societies' needs and desires.*** These are commonly summarized within a report issued by the government, outlining their major objectives and priorities based on identified societal needs and desires. Depending on the country context and institutional arrangements, these objectives will vary in specificity, timeline and scope. It is important for all officials who work on industrial policy construction to have a clear understanding of these overarching national development goals so that all interventions can be persuasively justified in terms of their contribution to the larger national vision.

Guiding Question: *What are the major needs and objectives of your country?*

BOX 1: An Example of Mapping national development goals

Country A has a long-term development plan. Upon conducting a mapping of the national development goals, industrial policy practitioners have identified seven national development goals:

- 1) **Economic growth** - Country A has growing industries in agro processing and the textile sector, but a large percentage of the population is still engaged in subsistence farming and economic growth is a high priority.
- 2) **Social equality** - Social and regional inequality has been a trigger of social conflict in the past. The government sees a more equitable participation in economic growth and access to health, education and opportunities as a central factor in reducing conflict potential.
- 3) **Poverty alleviation** – A large segment of the population in Country A still lives below the poverty line and does not have access to basic needs.
- 4) **High employment** - Beyond its positive effect on economic growth and poverty alleviation, the government places a premium on allowing every citizen to be engaged in productive work with fair wages.
- 5) **Democratic stability** - Election cycles have been plagued by unrest and conflict. Strengthening democratic institutions is therefore a major goal of Country A.
- 6) **Universal education** - Many children do not have access to basic education. The national development plan establishes education as a critical step on the way to high levels of human and economic development.
- 7) **A Healthy Society** - Access to quality health services is sporadic. Preventable diseases place high costs on families and individuals, especially in disadvantaged areas.

The development goals of improved **environmental sustainability** and **peace and security** are also mentioned within the national development plans but do not seem to be the major development priorities at this time.

Mapping national development goals



- **Outline major areas where IP can contribute to these national development goals**

Different countries and contexts will have different understandings of the definition, role and scope of industrial policy. Whilst it can be easy to see how industrial policy *could* play a role in pursuing any number of national development objectives, it is important to identify the ones which industrial policy can make the greatest contribution to. Any policy maker is painfully aware that it is simply not possible to do everything and that it is thus critical to identify clear priorities for action so that resources can be most effectively allocated to achieve these goals. This step requires industrial policy makers to narrow down the list of national development goals and select the ones that they feel can be best promoted through industrial policy.

Guiding question: Which national development goals could best be achieved by promoting particular productive activities?

- **Consider other important policy areas which are relevant (but beyond the purview of IP) for achieving these national development goals**

National development goals are generally very large and complex and will rarely be achieved through industrial policy alone. Therefore, it is important to be clear on which other ministries or policy areas will also need to be involved in order to achieve these broader goals. Outlining complementary types of policies (which are beyond the purview of industrial policy) is critical to ensuring an effective, coordinated approach to achieving the development objectives.

Equally important however, is a consideration of policy areas which could potentially conflict with industrial policies' contribution to these larger goals. For example, the influence of industrial policy is increasingly constrained by trade and investment agreements that limit the ability of governments to actively support or promote strategic economic activities. It is thus important to consider these "risk-factors" and monitor policy developments in other areas to ensure effective coordination.

Guiding Question: Which other policy areas or programs are relevant in ensuring industrial policy's effective contribution to the national development goals?

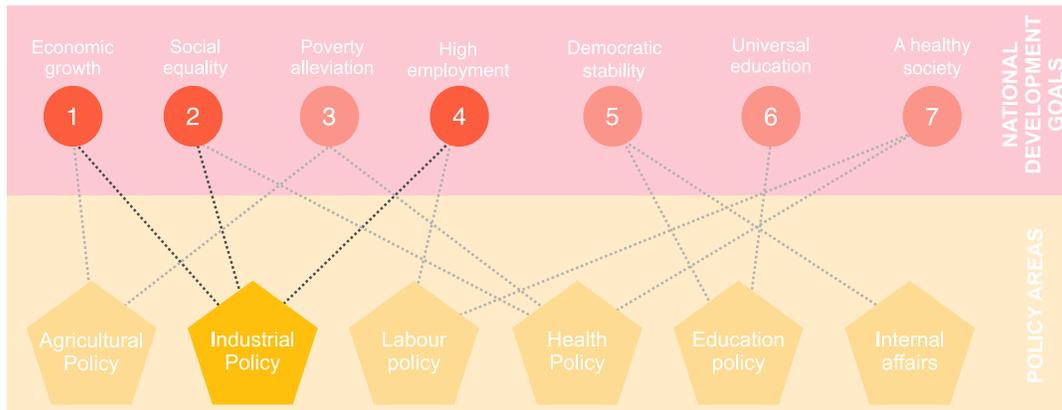
BOX 2: Example of identifying where IP can contribute to national development goals and which other policy areas are relevant

In the case of country A, policymakers have decided that the most effective use of industrial policy will be towards the realization of three national development goals: **economic growth, social equality and high employment**. However, they emphasize that a strong shared responsibility between **industrial policy, agricultural policy, labor policy and social policy** is a crucial step in realizing the country's national policy vision.

After discussing which responsibilities will be taken on by which ministry, it was acknowledged that initiatives could not be isolated from each other and that there was room for significant synergies between policy packages of different ministries. For example, programs under industrial policy and labor policy would have to be coordinated to achieve full employment.

BOX 2 (continued)

Locating Industrial Policy in National Development Goals



Step 2: Define IP objectives and craft IP vision

The bedrock of a powerful industrial policy package is a government’s ability to construct and portray a clear vision that summarizes the overarching logic and motivation for all industrial policy directives. Too often, the objectives of industrial policy are taken for granted or simply assumed but it is important to be clear on the concrete objectives towards which industrial policy will be deployed in the coming years. Having a structured method for identifying, prioritizing and articulating these objectives can be very helpful for many governments to ensure public and private support for industrial policy. Moreover, the sheer number of objectives commonly considered or outlined in industrial policy documents limits the government’s ability to effectively implement or effect change in any of these areas. Since it is not possible (due to financial, time and institutional constraints) to do everything, it is necessary to identify and prioritize the top objectives towards which industrial policy will be employed in the coming years and to craft and articulate a vision that persuasively outlines the importance and relevance of industrial policy in achieving national development goals.

- **Assess industrial performance and stakeholder needs to prioritize the key dimensions of structural transformation**

Different countries will have varying approaches to identifying their major IP objectives. **Industrial policy objectives can be understood as explicit goals that relate to specific dimensions of the desired structural transformation trajectory of the economy.** A recommended starting point is to conduct a holistic assessment of current industrial performance across time and in comparison with other countries (See *EQuIP Diagnostic toolkit for indicators which can be used to assess the economic, social and environmental dimensions of industrial performance*). From this assessment, policy makers should be able to identify negative trends that they would like to reverse or positive trends, which they would like to bolster through industrial policy initiatives. Stakeholder consultation is also an important method for identifying IP objectives, as understanding the needs of businesses and citizens can help to define concrete industrial policy objectives (see *EQuIP Institutional Set-up Toolbox for more information on how governments can engage effectively with stakeholders in their country*).

Guiding Question: Which aspects of the productive sector require significant changes in order to achieve the desired form of structural change for the country?

Box 3: Examples of industrial policy objectives

In this tool, we outline ten potential IP objectives that are commonly prioritized in developing countries. The shape and form of these objectives will vary depending upon national context, but this list gives an example of the type of industrial policy objectives that could be considered.



See **Section B** for descriptions of each of these ten objectives and relevant considerations for industrial policy design.

- **Select industrial policy objectives to be prioritized, based on the major development goals**

From an assessment of industrial performance, stakeholder consultation and expert advice, an infinite number of industrial policy priorities could arise. For a goal-oriented industrial policy design process, we suggest that the identified national development goals be used to narrow down this list of the priority industrial policy objectives. Going through a discussion of which IP objectives are seen to most effectively, and directly contribute to the prioritized development goals of the country can help to significantly narrow down the options considered, and ultimately ensure a coherent policy package.

Selecting which industrial policy objectives will be pursued over the next five, ten, or 20 years (depends on the projected timeline of the government) is never a purely technical issue and will inevitably involve political dimensions of negotiation and consultation. However, being able to directly link and justify the selected industrial policy objectives in relation to the larger development needs of the country is a valuable way to ensure the political, business and social support needed to ensure a successful structural transformation of the economy.

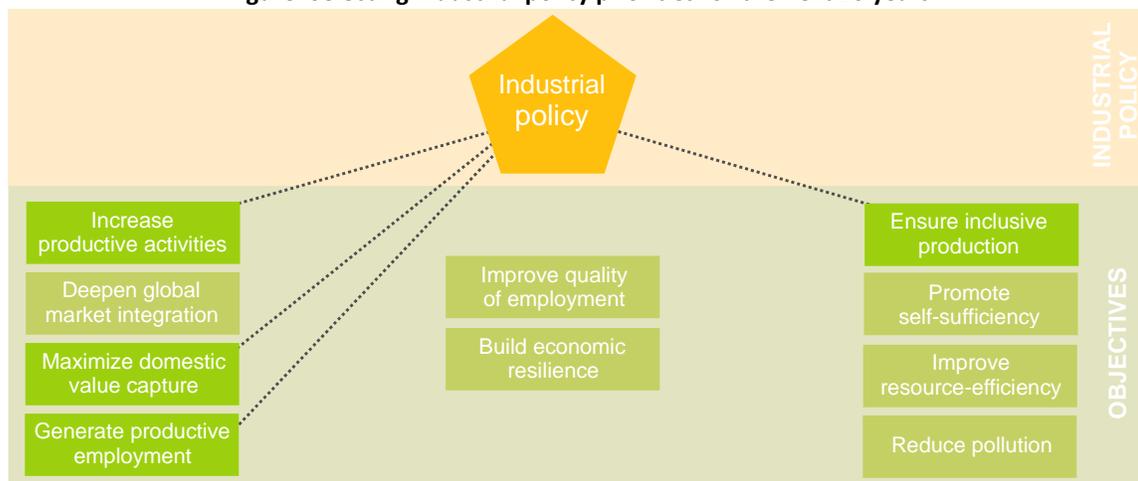
Guiding Question: Which industrial policy objectives will most effectively contribute to the larger development goals of the country?

BOX 4: Example of Identifying and selecting concrete industrial policy objectives

Since the industrial policy makers of Country A have already concluded that industrial policy would be best employed towards the national development goals of economic growth, social equality and full employment, they have now narrowed down a long-list of potential industrial policy objectives to the four which they feel will best contribute to these larger development goals:

- 1) Increase productive activities** - A major development challenge faced by Country A is that their production is very small in scale and is concentrated in a few activities, which results in low-value added and low incomes deriving from production. Therefore, they see this IP objective as critical for achieving the development goals of economic growth.
- 2) Maximize domestic value capture** - Country A is concerned because much of their current production is being undertaken by foreign firms who do not source from domestic suppliers and tend to re-patriate most of their profits abroad. Therefore, they have prioritized to increase the amount of domestic value capture arising from productive activities by strengthening domestic linkages and reducing leakages as a way of achieving the national development goals of economic growth.
- 3) Generate productive employment** – Country A is struggling with a large share of its population being stuck in rural subsistence activities and informal services despite recent growth. Hence, the generation of productive employment opportunities is prioritized as an industrial policy objective to achieve the development goal of high employment.
- 4) Ensure inclusive production** – Recent growth in Country A has been accompanied with rising inequalities because large segments of the population are not able to participate in productive activities. Therefore, ensuring more inclusive productive activities is a prioritized industrial policy objective to achieve the national development goal of social equality.

Figure: Selecting industrial policy priorities for the next 10 years



- **Highlight potential synergies or trade-offs amongst objectives**

In order to develop a truly integrated IP package, it is important to actively consider how particular objectives could complement or conflict with one another. The realities of political life mean that policies are commonly developed in response to specific problems or demands from the public, without adequate consideration of their relationship with other government initiatives. This “piecemeal” approach is particularly problematic in the area of industrial policy, because as mentioned, IP focuses more on medium to long-term objectives that require strong

commitment and coherence to be successful. By taking the time to investigate potential synergies and trade-offs amongst various industrial policy objectives, governments are in a much stronger position to harmonize their initiatives and identify when complementary policies might be needed in order to minimize potential negative consequences. Section B provides a comprehensive list of potential synergies and trade-offs between objectives that can support this process.

Guiding Question: *How might some industrial policy objectives complement or conflict with one another?*

- **Craft an industrial policy vision which is based on the prioritized IP objectives and their contribution to larger development goals**

On the basis of the previous steps, an **industrial policy vision** can be constructed by outlining the ***type of structural transformation envisioned for the country and how the achievement of the specific prioritized industrial policy objectives will contribute to the development needs of the nation***. An industrial policy vision needs to spell out the longer-term structural transformation envisioned for the country. Industrial policy cannot change past trends, or even present trends, it can only influence the future. Furthermore, the government is only one actor within a complex network of institutions and players who determine the economic trajectory of a nation. There will be a significant time delay between a successful industrial policy intervention and the achievement of the prioritized objectives. Therefore, crafting a persuasive and long-term, goal-oriented industrial policy vision is critical for garnering the political commitment and societal support needed to ensure its realization. Industrial policy visions are therefore very important for effective communication with private and public stakeholders and should ultimately serve as the foundation of the industrial policy package.

Box 6: Example of an Industrial Policy Vision statement

In the example of Country A, industrial policy makers prioritized the industrial policy objectives **increase productive activities, maximize domestic benefits, generate productive employment and ensure inclusive production** in order to achieve the national development goals of **economic growth, social equality and full employment**. Country A's Industrial Policy Vision could potentially be articulated like this:

*"To achieve an **inclusive industrialization process** that contributes to more equitable economic growth and poverty reduction by promoting broad-based sectoral growth and productive employment generation through the expansion and diversification of domestic production".*

Step 3: Define and prioritize specific IP intervention areas

- **For each industrial policy objective, consider potential intervention areas**

Once a country has identified their major industrial policy objectives the next step in the industrial policy design process is to consider potential **intervention areas**, which can be understood as a ***concrete change in the productive sector that is deemed essential to achieving an industrial policy objective***. Therefore, while policy objectives and intervention areas are inherently connected, they are not quite the same thing. The intervention areas look more specifically at the preconditions for achieving the objective. For example, an industrial policy maker may have the objective of increasing the level of production in their economies but a potential intervention area would be to increase firm's productivity levels.

The process for identifying potential intervention areas will vary across countries, however it is advisable to conduct an assessment of the countries productive structure, the current state of productive capabilities, as well as an analysis of the most binding constraints inhibiting the desired form of structural transformation (see *EQuIP Diagnostic Toolkit and strategy setting framework for some potential indicators which can be helpful in setting quantifiable targets*). In addition to a quantitative assessment, discussions with business actors, labor, social and sector associations can help to get an understanding of the factors that are constraining economic actors from developing in line with the desired structural transformation vision.

Guiding Question: *What are the concrete changes required to achieve the Industrial Policy Objective(s)?*

- **Outline the reasons why you believe that government intervention in these areas is vital to achieving the industrial policy objective**

One of the most important parts of developing a transformative industrial policy package is to develop a clear intervention logic that persuasively outlines exactly *why* government support of particular economic activities will achieve the desired objectives. Outlining this rationale can be very valuable as in the event that particular instruments or interventions are not successful, policy makers can easily revisit their initial logic and consider if other interventions in another area would be more effective. Furthermore, industrial policy still remains controversial or marginalized in many countries and having a transparent and persuasive rationale for government intervention in the productive sector can help to increase the legitimacy and “policy space” for industrial policy initiatives.

Guiding Question: *Given your countries context, why are interventions in particular areas of the productive sector necessary in order to achieve the prioritized industrial policy objective(s)?*

- **Consider potential synergies or trade-offs between intervention areas**

In the same way that potential synergies and trade-offs between different industrial policy objectives were considered, it is also important to consider these for the intervention areas. The earlier exploration of the potential synergies and trade-offs between objectives will already provide a solid starting point for this exploration but now there will be a consideration of the relationship between particular points of intervention. For example, a country may decide to intervene to promote more technologically advanced activities whilst also identifying the importance of interventions to increase the number of productive employment job opportunities in the country. In the event that the majority of the population is unskilled, these technologically intensive activities may not generate employment opportunities that are accessible for most workers or may even reduce the level of employment if the activity was formerly labor-intensive. Therefore, considerations of these potential trade-offs would help in highlighting that there may be a need for complementary interventions to upgrade the skills of the labor-force or alternatively the government could decide to focus on a separate intervention that supports employment generation in other activities.

Guiding Question: *How could initiatives in certain intervention areas complement or conflict with one another?*

- **Select and prioritize intervention areas**

In the ideal world, a government would be able to come at an objective from every possible angle. In this case, it would mean that every possible intervention area would be targeted so as to ensure that the industrial policy objective is achieved. However, the reality is that policy makers will have to choose and prioritize amongst various points of intervention. Therefore, in the same way that policy makers must prioritize amongst potential objectives, they will need to decide which intervention areas seem most critical or relevant in order to achieve their longer-term objectives. This prioritization can be supported by diagnostics, stakeholder consultation and an analysis of potential synergies and trade-offs as policy makers may be able to identify certain intervention areas that are complementary or relate to the achievement of multiple objectives, which would then provide a strong case for their prioritization.

BOX 7: Example of defining specific IP intervention areas according to the IP objectives

Country A has considered a variety of potential intervention areas to achieve their prioritized objectives. Through discussions, analysis and a consideration of potential synergies and trade-offs they have decided to prioritize six major areas for intervention.

Objective: Increase productive activities

Considered intervention(s): Increase productivity; boost demand for domestic goods, move into new productive activities

Prioritized intervention(s): Increase productivity; boost demand for domestic goods

Rationale: Country A sees it as very important to move into new activities but presently does not have resources to effectively promote this objective. In an effort to help bolster their small businesses they want to focus on increasing their level of productivity and demand for their products.

Objective: Maximize domestic value capture

Considered intervention(s): Strengthen national value chains; Increase embeddedness of firms, increase domestic ownership and reduce level of imports;

Prioritized intervention(s): Strengthen national value chains; Increase embeddedness of firms

Rationale: Country A has a small agro-processing industry. Policymakers want to increase linkages between agricultural production and processing. Due to a high foreign presence in their country they have also prioritized to increase their level of embeddedness in the country by encouraging them to source more from domestic suppliers as another way of fostering national value chains.

Objective: Generate productive employment

Considered intervention(s): Increase the demand for labor, Increase number of skilled jobs, and improve labor market matching

Prioritized intervention(s): Increase labor demand

Rationale: Country A feels that the major challenge in the labor market is that the majority of their population is still in the informal sector. Therefore, their priority is to increase the demand for labor in productive activities in order to ensure that more workers are integrated into formal activities.

Objective: Ensure Inclusive Production

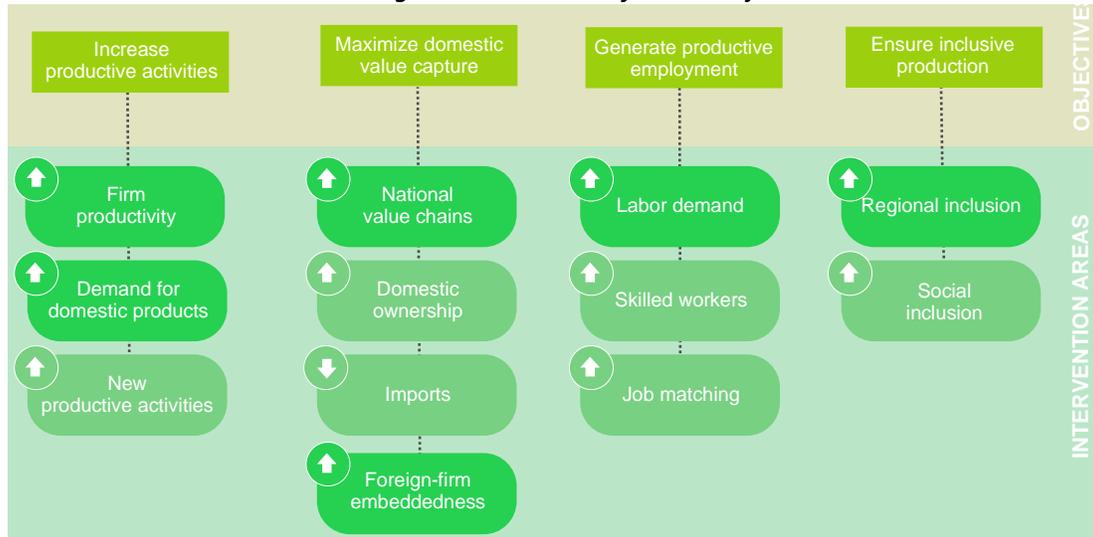
Considered intervention(s): Regional inclusion, Social inclusion

Prioritized intervention(s): Regional inclusion

Rationale: Country A feels that much of the rising inequality and social tensions are due to regional imbalances. Their hope is that by strengthening regional value chains they will be able to foster more productive opportunities for populations in under-developed regions.

BOX 7 (continued)

Prioritizing intervention areas for each objective



Paler boxes show intervention areas which have not been selected as priorities. Arrows show a targeted increase or decrease (e.g. arrow down: decrease imports; arrow up: increase firm productivity)

Box 8: Monitoring (non-prioritized) industrial policy objectives and intervention areas

Whilst it is necessary to narrow-down and prioritize particular industrial policy priorities for action, this can sometimes lead to a situation where other (non-prioritized) issue areas are ignored. However, it is important to continuously monitor performance related to all industrial policy objectives or intervention areas as this information can help to illuminate unanticipated positive or negative consequences of industrial policy interventions.

For example, a policy that was focused on boosting domestic value capture may have large positive employment effects (although employment generation was not a currently prioritized objective). This information could then be used to encourage the expansion of these types of activities due to their positive contribution to multiple objectives. Alternatively, an intervention to boost exports could have unforeseen negative pollution effects which would require complementary policies to mitigate or reverse these impacts. (See *EQulP Diagnostic Toolbox for indicators which can be used to holistically monitor industrial performance from an economic, social and environmental perspective*).

Guiding Question: How can we best monitor performance in the other industrial policy areas that were not currently prioritized?

Step 4: Evaluate current industrial policy package

Very few countries will begin the industrial policy design process from scratch. Rather they will have a variety of policy instruments that are currently being employed and require a structured method for assessing how coherent these instruments are as a “mix” or package. Policy instruments that should be examined and assessed are those being implemented by the

government (both Ministry of industry and other relevant Ministries), civil society organizations (e.g. chamber of commerce, sector associations, unions) and development agencies.

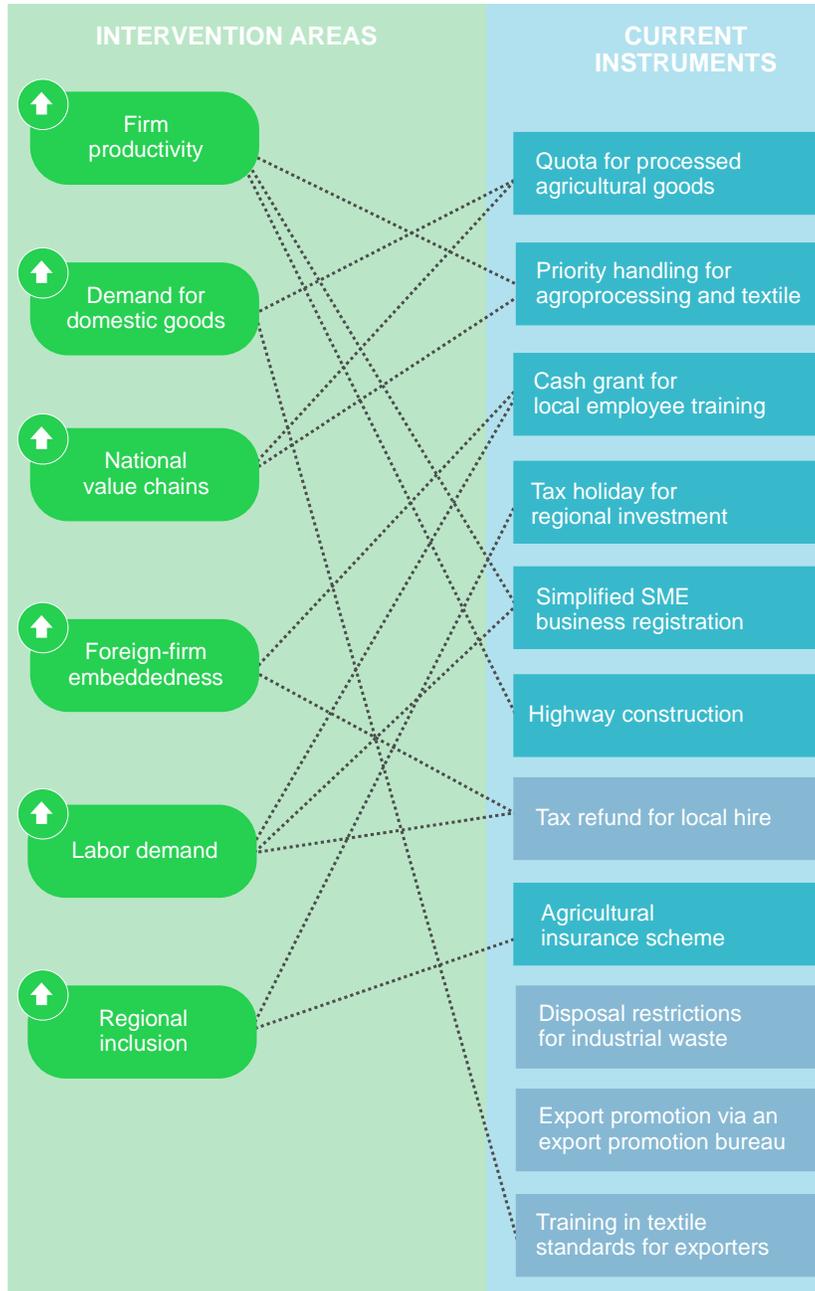
- **Map current industrial policy instruments on the basis of their connection to the prioritized IP intervention areas and objectives**

Policy makers may first want to map the current industrial policy instruments being employed in their country and examine how the instruments connect with the prioritized intervention areas and objectives. Following a goal-oriented assessment can help policy makers to convincingly assess how appropriate and coherent their current industrial policy package is. This can also help to boost public approval for industrial policy interventions, as one of the most common arguments waged against IP is that instruments are crafted according to the needs of selected interest groups rather than the needs of the country.

***Guiding Question:** How do current industrial policy instruments connect to the prioritized industrial policy objectives and intervention areas?*

BOX 9: Example of current industrial policy package mapping

In the example, country A has mapped a number of relevant instruments and connected them to the prioritized intervention areas whenever possible. Some instruments connect to multiple intervention areas while others do not seem to be connected.



Lines indicate logical connections between intervention areas and instruments. Paler boxes show terminated instruments.

- **Highlight potential trade-offs or synergies between instruments**

Building upon the earlier exploration of potential synergies and trade-offs between particular objectives and intervention areas, policy makers can use this logic to assess how their current instruments fit together. For example, you may have already identified that there is a potential conflict between interventions that aim to increase production in underdeveloped regions and interventions that aim to increase exports and therefore if you identify two instruments oriented towards these respective objectives, there could be a potential trade-off.

Within this toolbox we use a classification of policy instruments (*see introduction*) which classified instruments according to whether they are a regulation, (dis)incentive, information or provision of public goods and services. Using such a typology can help identifying trade-offs and synergies along another dimension. For example, you may have an information campaign and regulation that are oriented towards the same objective, thereby indicating that the instruments are complementary (more effective together than individually) or you may identify that a costly regulation and incentive scheme are both oriented towards the same objective and that there is redundancy.

Guiding Questions: *Do any of the current instruments complement or conflict with one another?*

- **Identify gaps in the current policy package**

By mapping the current industrial policy package according to the orientation of instruments towards the major industrial policy objectives and intervention areas, practitioners are in a solid position to identify gaps. By mapping all industrial policy instruments, it may become clear for example that many of the instruments are oriented towards one particular objective while noting that there are no instruments currently focused on other prioritized intervention areas.

Guiding Question: *Are there particular intervention areas or objectives which are not being sufficiently targeted through current IP instruments?*

BOX 10: Defining the targets (selectivity) of policy interventions to achieve outcomes

Determining the selectivity of an industrial policy is one of the most important and challenging aspects of policy formulation. Considerations of the industrial policy targets will occur at all stages of the industrial policy design process as certain objectives or intervention areas will naturally relate to certain population groups, types of firms, sectors etc. more than others. However, this selectivity or definition of target groups is established within industrial policy instruments as they will promote particular economic activities over others. Some important considerations for defining the selectivity are:

Beyond sector selection: Identifying a variety of potential targets

Many countries begin their industrial policy design process by selecting certain priority sectors for industrial policy support. For this reason many people see “sector selection” as the main example of target groups. In many cases, identifying strategic sectors for intervention will be an important part of the design process, but there are a variety of other target groups which could be relevant for consideration. For example, if you have an objective of improving resource-efficiency you may decide to focus on particular types of firms, e.g. SME’s because they tend to use the most resource-intensive production processes. Or alternatively, you may decide to focus on a particular sector (e.g. agro-processing) but many countries will not have the resources or capacity to target every firm in that sector and so they need to narrow down their target groups by region, size of firm, ownership of firm, demographic characteristics etc. so as to be in line with their major priorities.

Box 10 (continued)

For this reason, when considering how best to achieve industrial policy objectives it is important to consider a variety of different targets. Identifying potential target audiences for industrial policy interventions can be greatly assisted by quantitative assessments (see EQuIP Diagnostic policy toolbox) and stakeholder consultation (see EQuIP Institutional Toolbox). However, it is important to recognize that there is rarely one, “best” target to achieve a particular objective. Rather, there will be a variety of potential target groups and prioritizing amongst them will commonly be influenced by financial, institutional or administrative constraints. Considering and documenting a variety of different targets and outlining the rationale for each option can also be very helpful in the event that a policy scheme is amended or a new complementary policy is considered.

Target vs. beneficiary

It is important to be clear on the intended beneficiaries of a particular industrial policy intervention (both in terms of the intervention area and the ultimate objective). For example, if a country prioritized the production of a more diverse range of goods and services, the target of the instruments would likely be within a particular sector or activity. However, at many times the target of an intervention will not be the same as the intended beneficiaries. For example, if the objective is to boost productive employment generation, you may decide to target particular types of firms (e.g. labor-intensive activities, SME’s, cooperatives) but not the workers themselves. In such instances, it is important to make clear the rationale for why you believe targeting a particular group will end up ultimately benefiting the intended population.

Vertical vs. horizontal target

Depending on the nature of the objective, policy makers will need to decide whether they want to design a highly targeted intervention (e.g. vertical targeting) or if they would rather design an instrument which is targeted at all firms or groups in an economy (e.g. horizontal). For example, if a country has prioritized productivity increases, they may identify that a lack of adequate financing is the major factor inhibiting productivity enhancement in the economy. In this event, a country could decide to bolster all public and private lending institutions, which would constitute a horizontal intervention. Alternatively, they may decide that SMEs and the textile sector are most constrained in terms of their access to finance and then they would design a vertically targeted intervention which focused on boosting lending and credit for those particular target groups.

Targeting and Instrument Types

Depending on the degree of selectivity of a policy intervention, particular types of instruments may be better suited. For example, if you would like to change the behavior of all firms or all actors within an economy, a regulation or broad-based information campaign could be most effective. Alternatively, if you want to encourage or discourage certain behaviors by a selected group of firms or actors, an incentive or disincentive could be appropriate. Finally, if you do not see any actors currently engaged with the type of activities you want to promote or if you feel that the market left to its own devices will not provide goods or services at the appropriate price required to achieve the outcome, a public goods tool could be appropriate.

Guiding Question: *Which economic actors’ behavior would need to be modified to achieve the industrial policy objective(s)?*

Step 5: Designing a new Industrial Policy Package

Due to the complex nature and long-term perspective of industrial policy, it can be difficult to identify how effective an individual instrument has been in achieving its ultimate objective.

However, by following this “goal-oriented” approach to designing an industrial policy package we can evaluate and design instruments according to their ability to directly contribute to the desired structural transformation of an economy. This is in contrast with the more common “instrument-oriented” approach of designing an individual instrument and then justifying it on the basis of potential connections with broader development goals. By following the proposed method, the coherence and legitimacy of the new industrial policy package can therefore be greatly enhanced.

- **Identify current instruments to be kept, scaled-up, adapted or terminated**

Once a comprehensive mapping of the current industrial policy package has been undertaken, policy makers will need to determine which current instruments should be kept in their current form, scaled up or adapted. There are several criteria or considerations when determining whether a current instrument should be maintained. The first relates to the coherence of the instrument and whether it is oriented towards the prioritized intervention areas and objectives (based on the mapping exercise above). The second consideration relates to the instruments performance and perceived effectiveness.

Identifying instruments to be kept in their current form

From the industrial policy package mapping exercise above policy makers can identify certain instruments that they feel are strongly in line with the prioritized targets, intervention areas and objectives. They may also see that the instruments have been effective in achieving their desired results and as a consequence would be maintained in their current form.

Identifying instruments to be scaled-up

In some instances, policy makers may identify a particular instrument which they feel is appropriately targeted and relatively effective but believe it would have an even greater impact if it were expanded in terms of its scope or size. In these instances, industrial policy makers may decide to allocate greater resources to this instrument so more actors are targeted or the existing targets receive greater support through the instrument.

Identifying instruments to be adapted

There are a variety of reasons why and ways how an instrument may be adapted. The first would relate to its orientation. Policy makers may identify a particular instrument that they feel has been effective but which is not in line with the prioritized outcomes and objectives. In this event, the instrument will need to be adapted in terms of its targeting so as to be in line with the new priorities. Alternatively, there may be a well-oriented program that has not been effective at achieving the desired outcome. Some potential reasons or considerations for why a particular instrument is not effective include:

- The scale of the instrument (in terms of scope or funding) may not be large enough to have its desired effect
- There may be lack of awareness about the instrument which is undermining its effectiveness
- The instrument may be targeting the wrong group
- Poor implementation of the instrument may be limiting its effectiveness
- The instrument could be made more effective by instituting a complementary instrument or by better aligning the instrument package

- A different variety of the instrument may be more effective (for example, you may have chosen to use the IP instrument of a tax incentive but there are a variety of forms that this instrument can take including: a tax refund, deduction, exemption, accelerated depreciation, holiday, loss carry forward, etc., and these alternative forms could be considered).

Identifying instruments to be phased-out or terminated

From the industrial policy package mapping exercise, policy makers should be able to identify instruments that are not aligned with their prioritized objectives. Through their monitoring and evaluation efforts they may also see that these instruments have not been effective in achieving the desired outcome. In this instance, policy makers may decide to terminate the instrument so that they can use the resources to institute new instruments that are better aligned. However, in many instances it may not be feasible, or desirable, to immediately stop a particular intervention and in this case a “phase-out” strategy could be put in place.

Consider a variety of alternative instruments that could be employed

For any given objective or prioritized outcome there are a variety of instruments which could be employed by the government. This toolbox outlines the different types of government power that can be used when instituting industrial policy instruments (e.g. regulation, (dis)incentives, information and provision of public goods and services) within the introduction. Depending upon the current industrial policy mix (e.g. the instruments which have been kept or adapted), you may decide to utilize a variety of different instrument types towards a particular objective. Alternatively, you could choose to use multiple instruments of the same type (e.g. a variety of incentives, such as cash grants, tax incentives and preferential credit schemes). At this stage, it is important to envision a “wish-list” of policy instruments that you feel could be used in the prioritized intervention areas to achieve the desired industrial policy objectives.

BOX 11: Recognizing instrument “flexibility”

There is a pervasive tendency by industrial and economic policy “experts” to promote a particular instrument as the single, “best” solution to an economic problem. However, it is important to realize that there is never a “one-size-fits-all” solution because of the following two realities:

The same instrument can be used to achieve a variety of objectives

Most policy instruments are incredibly flexible and can be used to achieve any number of objectives. For example, a preferential credit scheme could be used to boost exports by lending to exporters, or it could be used to boost employment by lending start-ups or labor-intensive sectors, or it could be used to increase resource-efficiency by lending to firms for technology upgrading, etc.

An objective can be achieved by a variety of different instruments

Any objective can be achieved through a variety of different instruments (or combination of instruments) and their effectiveness will depend on national context, effective orientation, and implementation. For example, the objective of “increased productive activities” could be supported through any of the following types of instruments:

- **Regulations:** simplification of business start-up procedures, competition regulations, export-bans for unprocessed raw materials, import bans and quotas,
- **Incentives:** start-up finance, capital expenditure grants or preferential loans, income tax exemptions, import taxes, consumption subsidies, subsidies for technology adoption

Box 11 (continued)

- **Information:** training programs on entrepreneurship, providing market intelligence, investment promotion campaigns, technology extension and transfer services, industrial trade fairs, execution of feasibility studies for new ventures
- **Public goods and services:** SOEs, state owned development banks, public infrastructure investments, public procurement

- **Select new instruments for adoption**

As any policy maker will know, it is simply not possible to do everything due to financial, institutional and time constraints. Therefore, it is important to be strategic when choosing the new instruments for adoption. Ideally, a country will be able to choose a set of instruments that they feel (in terms of form and orientation) will best achieve their prioritized outcomes. However, in most situations some instruments will simply be more feasible than others to adopt due to a number of considerations, including:

- Institutional capacities to effectively implement/enforce the instrument
- The required time-horizon for the instrument
- Monetary cost of instrument
- Political support for industrial policy initiatives
- Stakeholder buy-in for instrument
- The perceived legitimacy of government to intervene in economic activities

BOX 12: Example of designing a New Industrial Policy Package

Based on the prioritized objectives, Country A evaluated its current industrial policy package. After analyzing the coherence and impact of the individual instruments, it produces the following final package which they feel is a much stronger fit with their prioritized objectives (table and graphs below in box).

Instruments		Actions	Rationale
1	An import quota for processed agricultural goods	kept	Policy makers feel that the import quota has played an important role in developing local agro-processing industries and strengthening national value chains and therefore decide to keep the instrument in its current form.
2	Priority handling for domestic agro-processing and textile businesses	adapted	Agro-processing and textile businesses have made extensive use of priority handling procedures and feel it has been effective in supporting these sectors. Policy makers would now like to include the leather industry within this scheme so they decide to scale-up the instrument.

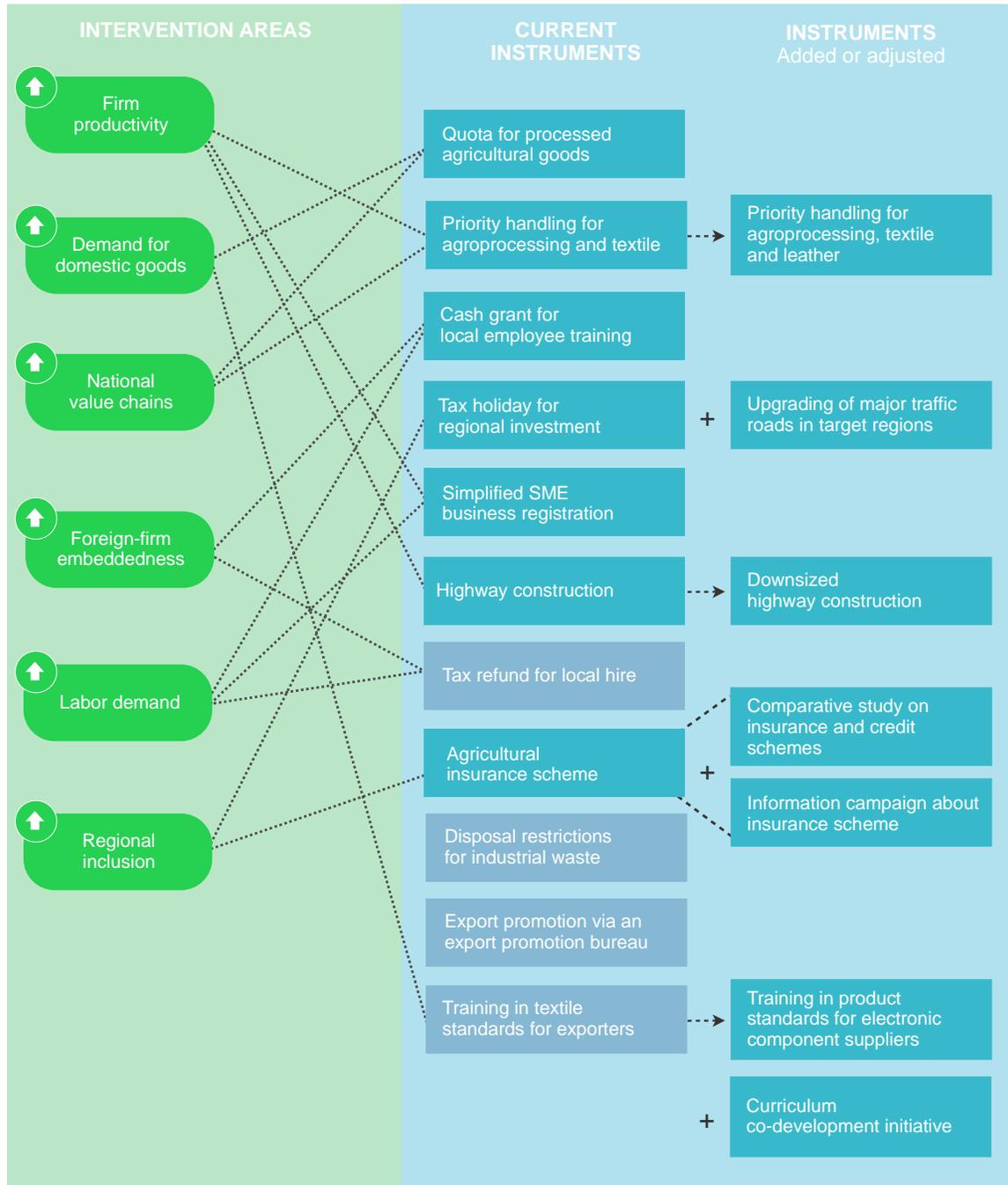
3	A cash grant for on the job training of employees	kept	M&E has shown that this cash grant scheme has been very effective in boosting firms' productivity and increasing employee retention rates. Therefore, policy makers decide to maintain this instrument in its current form.
4	A tax holiday for firms which locate their production site in target regions	kept	Investment rates in remote regions remain consistently low. A survey has shown that the tax incentive in its current form could boost investment rates, but only if the business environment in these regions is significantly improved. A major factor in determining firm location decisions is a quality road system. Therefore, this instrument will be kept and complemented by a road infrastructure initiative and monitored.
5	Upgrading of main traffic roads	new	Unreliable dirt roads in some target regions severely limit the capacity of cargo and transport systems. The government has identified a list of relevant roads to be upgraded to bitumen roads. The new instrument is tailored to have a synergy effect with the previous tax holiday scheme (4) in attracting investors to target regions in the medium-term and in the short-term this public works program will contribute to employment generation.
6	A business registration reform for SMEs	kept	Despite thorough decentralization and simplification of business registration services, registration rates have not significantly increased. Further analysis has shown that lack of access to credit is a contributing factor. After improvements to the agricultural insurance scheme and continuous efforts to maximize synergies between credits schemes under other ministries, the impact of the registration reform will be reassessed.
7	Highway construction	adapted	The highway project is an ambitious project which aims to connect the country's two biggest economic trade hubs. While it has already contributed to economic growth in the country, a review of the project plans has shown that not all aspects of the project will yield further improvements. The project is downsized to essential improvements to release funds for the upgrading of roads in remote regions.

8	Tax refund for foreign-owned firms hiring local workers	terminated	M&E have shown that firms under the incentive scheme do not have significantly higher local hire rates than firms which have not applied for tax refunds. As jobs are mostly low-skilled, firms preferentially select from the domestic labour pool even without incentives. The tax incentive will therefore be phased out.
9	An insurance scheme for small-scale agricultural producers	adapted	Analysis has shown that agricultural producers with insurance have more financial flexibility and are more likely to expand their business activities. However, the number of producers currently covered by the scheme is still very small because few know of this option. The instrument is to be complemented through an information campaign organized through producer associations.
10	Study on duplication effects of credit and insurance schemes	new	A study is undertaken to determine how to improve and coordinate existing insurance and credit schemes administered through different ministries. While evaluating the impact of an existing insurance scheme for agricultural producers, it became clear that the coexistence between the two schemes caused major confusion among agricultural producers, as the differences between the two schemes were not widely known and application procedures were seen as confusing due to the clashing responsibilities. The two schemes are to be revisited and reevaluated.
11	Information campaign via agricultural associations	new	An information campaign is set up in cooperation with agricultural producer associations to increase knowledge of existing instruments.
12	Disposal restrictions for industrial waste	terminated	Strict disposal regulations were implemented as part of a general reform to production processes. However, these restrictions place prohibitive costs on SMEs and small-scale producers. In order to boost SME activity, the regulation is terminated.
13	Export promotion via an export promotion bureau	terminated	This export promotion scheme has been very expensive and the government feels that by focusing on upgrading and bolstering their domestic production they will be able to eventually move into higher value-added exports in the future anyways. This scheme will be

			terminated.
14	Training program in textile standards for exporters	adapted	The training program has not increased export rates to markets with higher quality standards. Competition in these markets is too strong for current exporters. This instrument will therefore be adapted to focus on new product standardization training for suppliers of the emerging electronics industry.
15	Co-curriculum development scheme	new	A co-curriculum development is initiated which links representatives of key industries with officials from the ministry of education. This scheme is the result of an inter-ministry cooperation after an evaluation of educational content regulation policies in the ministry of education have revealed that labor bottlenecks for key industries persisted.

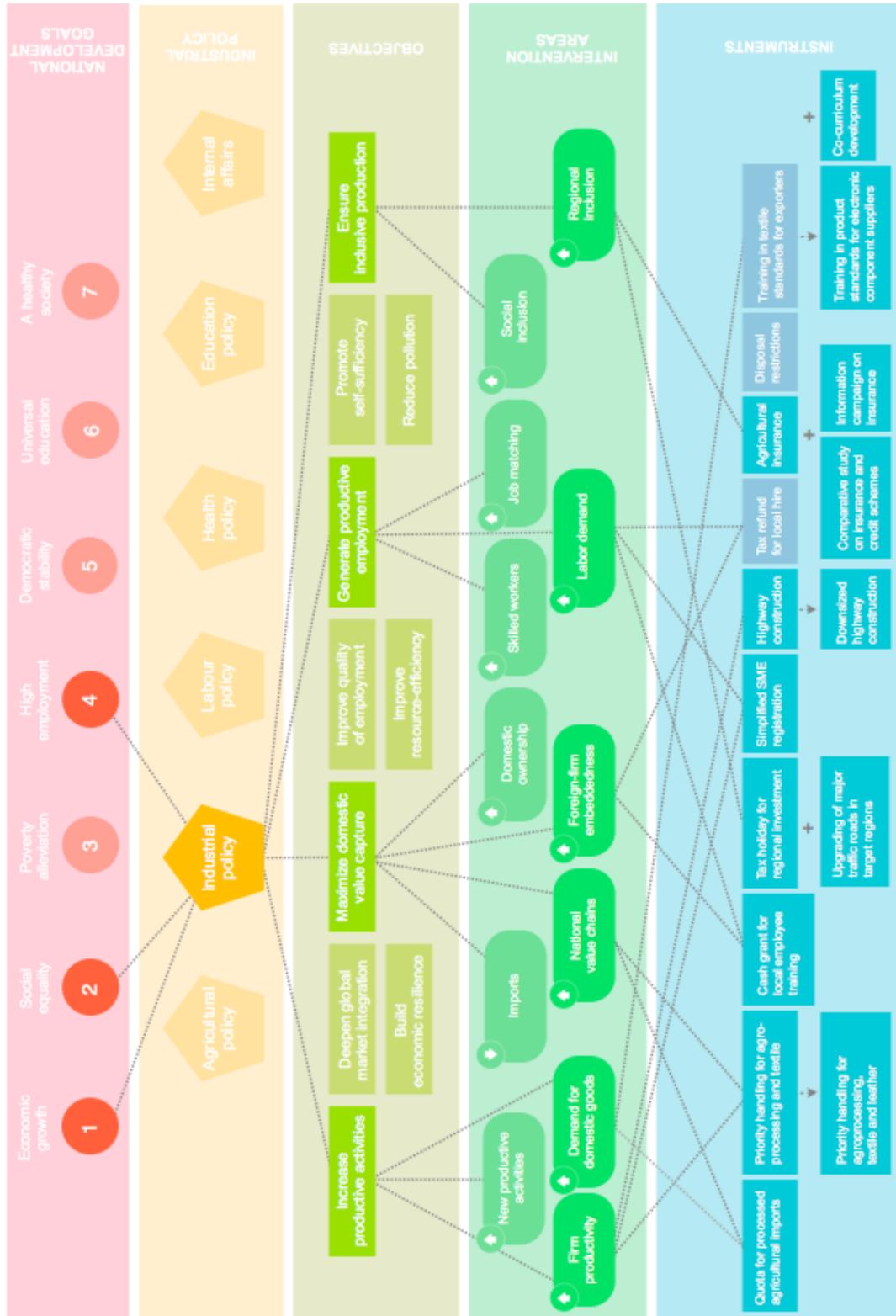
BOX 12 (continued)

Illustration of new package of policy instruments



Lines indicate logical connections between intervention areas and instruments. Arrows denote adaptations of existing instruments, plus signs show new instruments. Paler boxes show terminated instruments.

In addition to outlining the new policy package, the practitioners of country A have also created an overview of the intervention logic that connects the various levels of consideration. It consists of the various decisions outlined above.



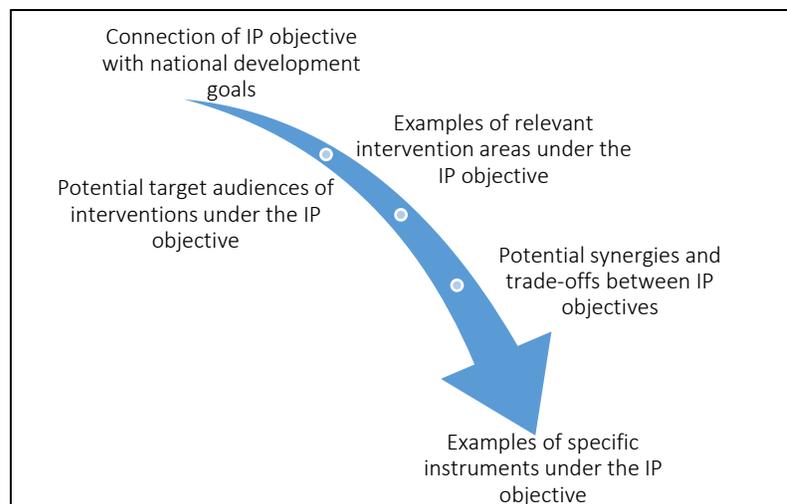
II. Section B: An exploration of industrial policy objectives: considerations for policy design

As outlined in the previous section, the process of designing an effective industrial policy package requires much more than just the selection of the “right” instruments. The desired structural transformation process can only be fast-tracked if the mix of interventions contributes to a clearly defined change process. The creation of a convincing “intervention logic” for an industrial policy package requires decisions on a number of aspects that are presented in this section.

In order to supplement the industrial policy design process presented in Section A and to support more creative thinking within it, a variety of common industrial policy objectives which relate to economic, social and environmental considerations of productive sector development will be explored here. The section outlines a diverse range of motivations to engage in industrial policy as well as an array of related intervention areas and a selection of instruments that countries can consider as options when designing their industrial policy packages. Each sub-section focuses on a different objective that may require government interventions.

Each sub-section starts by briefly contextualizing the objective within a range of larger national development priorities to illustrate how industrial policy instruments can potentially contribute to their achievement. On that basis, it exemplifies a number of concrete intervention areas that policy instruments could contribute to in a significant manner. It also discusses briefly how different target audiences can be considered for each objective. A section on synergies and trade-offs illustrates possible interconnections between different types of interventions that can hypothetically enhance or limit the effectiveness of a policy mix significantly. A summary of some specific instruments that governments can consider for their interventions concludes each sub-section.

Considerations discussed with regard to the 10 IP objectives



It is important to highlight that this section is neither meant to be exhaustive nor prescriptive but will hopefully encourage creative-thinking and more innovative approaches to the assessment, selection and combination of industrial policy instruments. It is very likely that

additional industrial policy objectives³ need to be considered and that different intervention areas than the ones presented here are considered most relevant on the basis of specific country contexts. Accordingly, the target groups, synergies, trade-offs and instruments illustrated here should also not be considered more or less appropriate than the ones which are not discussed (or which are included in the annex).

Overview of industrial policy objectives and intervention areas covered in this section

#	IP objective	Description and intervention areas
1	Increase productive activities	When industrial policy is considered or implemented in developing countries, the most common objective is to <i>increase productive activities</i> in the economy. A major development challenge faced by many countries is that their production is very small in scale and is concentrated in a few activities, which results in low-value added and low incomes deriving from production. Interventions which relate to increasing firm <i>productivity, demand for domestic products or moving into the production of new goods and services</i> could be considered under this objective.
2	Deepen global market integration	Due to increasing globalization, a common industrial policy objective is to <i>deepen global market integration</i> . Many developing countries do not yet benefit significantly from global trade opportunities, international investment flows or the activities of multinational enterprises. Selling to the international market, accessing foreign inputs, connecting to global value chains, or attracting foreign investors can compensate for small domestic demand and productive capabilities. Interventions that aim to increase <i>exports, attract foreign investment or to increase cooperation with international firms</i> could be considered under this objective.
3	Maximize domestic value capture	Many developing countries are striving to increase the amount of <i>domestic value capture</i> arising from productive activities by strengthening domestic linkages and reducing leakages. In a context of increased global integration, even if countries manage to produce more this does not guarantee that the generated value is captured locally. This can be due to a high degree of foreign ownership or excessive reliance on foreign inputs and export at the expense of higher domestic linkages and consumption. Interventions that aim to <i>strengthen national value chains, increase domestic ownership, reduce imports or increase the embeddedness of foreign firms</i> could be considered under this objective.
4	Generate productive	Many developing countries are struggling with a large share of their population being stuck in rural subsistence activities and informal

³ The list of ten objectives is fairly comprehensive but not exhaustive. For example, depending on country context, an alternative industrial policy objective could be phrased as “Modernising the economy” if a country or region wants to leave the resource trap, if there are old industries which don’t work any longer (e.g. The Ruhrgebiet in Germany) or if a general policy shift is attempted, like the “Energiewende” in Germany. Another possible objective could relate to the fact that a country wants to become independent from the influence of former colonial powers or if a country applies industrial policy in ethnic, religious or class conflicts.

	employment	services despite high levels of growth. Hence the <i>generation of productive employment</i> opportunities that offer greater prospects for rising incomes is a common industrial policy objective. Interventions that aim to <i>increase the labor demand in productive activities, the number of skilled workers</i> or that <i>improve the matching of jobs and workers</i> could be considered under this objective.
5	Improve quality of employment	Low earnings are a major determinant of poverty in developing countries and rising incomes from remuneration can lead to higher purchasing power which is vital for poverty alleviation and a stimulus of aggregate demand in the economy. Additionally, there is increasing concern about a “race to the bottom” in regards to employee benefits and health and safety considerations in production that ultimately end up undermining the social “development” benefits of structural transformations. Therefore, <i>improving the quality of employment</i> is an increasingly relevant industrial policy objective for many countries. Interventions which aim at <i>higher wages, better working conditions</i> or <i>more employment benefits</i> could be considered under this objective.
6	Ensure inclusive production	Recent history has witnessed many developing countries experiencing high growth rates that correspond with rising inequalities because large segments of the population are excluded from participation in productive activities. This leads to certain groups being trapped in poverty on the basis of their geographic location or demographic identity (e.g. gender, ethnicity, age). Promoting <i>more inclusive productive activities</i> has thus become a pressing issue for industrial policy makers that are concerned with inequality. Industrial policy interventions which aim to influence the <i>regional distribution of production</i> or the <i>inclusion of disadvantaged social groups</i> can be relevant for this objective.
7	Build economic resilience	The recent global economic crisis has illustrated the potential downsides and risks of increased global market integration. Many developing countries are highly dependent on a limited set of productive activities, which makes them highly vulnerable to external shocks. Moreover, the increasing frequency of natural disasters and other effects of climate change have significantly undermined sustainable growth for many nations. As a result of these trends, many countries have started to prioritize <i>economic resilience</i> as a core industrial policy objective. Interventions under this objective could aim to <i>diversify domestically produced goods or sales markets, reduce industrial concentration to foster competition, diversify input sourcing</i> or <i>better adapt productive activities to climate change</i> .
8	Promote self-sufficiency	Many developing countries have significantly increased their reliance on imports for strategically relevant consumer goods and inputs required for production. This does not only minimize domestic linkages and value capture but also increases exposure to external risks significantly. Additionally, many countries have begun to worry about the deterioration of traditional craftsmanship and cultural industries as a result of rising imports and global standardization. For this reason, developing countries may prioritize <i>promoting self-</i>

		<i>sufficiency</i> as a core industrial policy objective. Interventions which aim to <i>increase the domestic supply of critical inputs for production, the production of strategically relevant goods and the preservation of cultural industries</i> could be considered under this objective.
9	Improve resource efficiency & management	Developing countries commonly rely on highly resource intensive production processes, which leads to a rapid depletion of resources, environmental degradation and high production costs. Many countries therefore have to prioritize <i>improved resource efficiency and management</i> within their industrial policy packages. Interventions that aim to <i>encourage firms to adopt more resource efficient technology or to improve resource management in accordance with the eco-system</i> could be considered under this objective.
10	Reduce pollution	One of the most detrimental effects of an expansion of production is on the natural environment. Consequently, a <i>reduction of pollution</i> from production is an increasingly important consideration for developing countries as they craft their industrial policy packages. Interventions which aim to <i>reduce levels of pollutants originating from productive activities, increase the production and consumption of “green” goods and services and improve waste management</i> could all be considered under this objective.

1. Increase productive activities

1) Considering IP connections to national development goals

A major development challenge facing many developing countries is that their economic growth prospects are hampered by the fact that productive activities are very small in scale and concentrated in a very limited range of activities. Hence, industrial policy interventions frequently aim at an expansion of productive activities and higher value addition that act as a stimulus for economic growth. The importance of this expansion is often also emphasized as a prerequisite for the generation of higher incomes and the reduction of poverty. In particular in low-income country contexts, industrialization and the expansion of productive activities is often perceived as a foundation for a successful structural transformation and economic development process.

2) Considering IP intervention areas

A range of concrete intervention areas can be of relevance if the main objective of industrial policy interventions is the expansion of productive activities. For instance, interventions could aim at the following intervention areas, which will subsequently be described in more detail:

- Increasing the productivity of firms
- Increasing the demand for domestically produced goods and services or,
- Having firms engage in the production of new goods and services

If policy instruments are primarily oriented towards **increasing firms' productivity**, a number of different methods could be considered:

- Firms productivity can be increased by a reduction of unit costs so that the price of their products will be lower which should increase demand, thus resulting in higher levels of production
- Firms can also increase their productivity if they have better access to the inputs required for production (e.g. labor, resources & capital), which can also include accessing cheaper inputs or better quality inputs at the same price
- Increasing the level of production can help firms reach economies of scale that result in higher productivity
- Encouraging firms to adopt modern production equipment and to upgrade technologies or processes can help to reduce input costs and enhance productivity
- Enhancing the skills of management and workers can contribute significantly to productivity gains

While the productivity enhancing methods mentioned above generally focused on the “supply” side of the economy, policy instruments that **increase the demand for domestically produced goods and services** can be equally important in order to increase productive activities in an economy because:

- Firm owners will have a larger incentive to re-invest profits into an expansion or modernization of operations if there is an anticipation of larger future demand.
- Domestic firms' access to international markets can provide the foundation for their expansion by increasing demand for domestic products.

Many countries aim to increase their productive activities by encouraging firms to move into the **production of new or more sophisticated goods and services** because:

- Firms can achieve a higher level of output if they succeed in entering new productive activities that offer larger (domestic or export) demand in the short- or long-term
- Entering into the production of goods and services for the mass market can provide the foundation for reaping the benefits of economies of scale and rapid expansion
- If firms manage to improve the quality of their goods and services it can help them to tap into new markets or increase demand and prices
- Entering into more technology-intensive sectors can be the foundation for long-term competitiveness as they are commonly characterized by less competition and higher profitability due to higher entry barriers
- Upgrading from simpler production activities to more advanced Technology as well as the introduction of Industrial Innovation processes can be the foundation for the long-term increase of productive activities in a country.*⁴
- Entering into more advanced productive activities can support industrial innovation and learning processes that can contribute to the continuous evolution of productive capacities which sustains competitiveness in the long-run
- Higher value added activities tend to offer larger global market potential and are subject to less competition and therefore less vulnerable
- Higher value added activities compete less on the basis of low-cost inputs (natural resources, labor costs, etc.) which makes them less vulnerable to input cost fluctuations

3) Considering IP target groups

While an industrial expansion can theoretically be achieved in any sector and by any type of firm, some countries may choose to target specific sectors or firms through their industrial policy instruments.

For example, **technology-intensive sectors** could be prioritized by countries because they seem to provide larger market opportunities or because innovation and productivity enhancements are expected to occur more frequently in these sectors.

In some instances, countries may choose to focus on **large existing firms** across sectors rather than small ones because their expansion efforts are expected to lead to larger results in a shorter time frame or because they tend to have better market information and therefore can anticipate increases in demand. Other countries however, could choose to focus on **growth-oriented MSMEs** because they are seen as a more dynamic target with corollary social benefits (see sub-sections below).

Along these same lines, a country could specifically target **start-up companies** rather than long established ones as they can potentially take advantage of new markets more effectively or because they are willing to take larger risks associated with new activities. Another

⁴ The promotion of Technology and Innovation is one of the most commonly discussed aspects of Industrial Policy today. Some authors in fact reduce industrial policy discussions exclusively to technology and innovation support that promotes productivity enhancements. While this report provides a more balanced perspective on industrial policy objectives, readers who are particularly interested in this notion may want to consider other resources. For example, the joint OECD/World Bank platform (www.innovationpolicyplatform.org) provides a wealth of information with regard to the rationale and common interventions to promote Innovation and Technology. The World Bank's "Innovation Policy: A guide for developing countries" is another very rich resource in this respect. The recent UNIDO working paper (WP 09/2015) titled "Innovation Policy and Industrial Policy at the Cross-Roads" presents some relevant examples from developing countries specifically in the aircraft and palm oil industries.

consideration could be that **new investors** (incl. foreign) are more likely to engage in more technology-intensive activities or to reach higher levels of productivity much faster due to their modern operating practices.

With regard to the market orientation of firms, successful **exporters** could be deemed more appropriate targets than domestically oriented companies when significant scale expansions or the exploitation of mass markets are considered critical.

4) Considering IP synergies and trade-offs

Potential synergies with other objectives

The expansion of productive activities is often considered a crucial foundation for the industrial policy agendas in developing countries. Accordingly, synergies between this objective and other areas have frequently been emphasized. The following examples are meant to illustrate this notion and can support policy designers if they consider how different interventions could potentially complement or conflict with one another within an industrial policy package.

Synergies with “deepen global market integration”:

- Increased productivity and the expansion of the scale of production are important prerequisites for successful export activities
- The strengthening of domestic demand can attract foreign investors to set up operations in the country
- Higher price competitiveness and quality improvements can support the integration into global value chains
- Innovation and technology upgrading can contribute to the long-term success in the large and growing global market for technologically intensive goods and services

Synergies with “maximize domestic value capture”:

- An increase in the scale and range of productive activities can stimulate additional linkages among firms within and across sectors (e.g. more domestic procurement, more domestic sales)
- A larger range of domestic productive activities can contribute to reducing leakages by replacing imports with national production

Synergies with “generate productive employment”:

- The expansion of productive activities is a critical driver of quality employment generation in the country
- A more diverse range of productive activities will be able to absorb a more diverse range of labor skillsets
- Enhancing productivity and upgrading firms can help self-employed and smaller scale firms generate productive employment opportunities

Synergies with “improve quality of employment”:

- Productivity gains can provide the foundation for higher wages and improved working conditions
- More technology intensive activities commonly offer higher wages and better working conditions than traditional labor-intensive sectors

Synergies with “ensure inclusive production”:

- An increase of productive activities can provide new opportunities for the participation of a more diverse range of individuals

Synergies with “build economic resilience”:

- The engagement in a range of new productive activities can contribute to the diversification of production which makes the economy more resilient to demand fluctuations and price shocks

Synergies with “promote self-sufficiency”:

- Increased domestic production and productivity increases can reduce the dependence on imported goods and services
- The advancement of technological capabilities can provide the foundation for entering strategic sectors that are knowledge and technology intensive (e.g. defense, pharmaceuticals) that are viewed to be strategically relevant.

Synergies with “improve resource-efficiency”:

- The introduction of modern production technologies and processes provides an opportunity for the introduction of less resource-intensive solutions
- Economies of scale can reduce the marginal resource-use of productive activities (i.e. additional amount of resources required for an additional unit of output)
- Technology-intensive modern sectors are typically less resource intensive than traditional resource-based activities

Potential trade-offs with other objectives

While the synergies mentioned above can strengthen the rationale of industrial policy interventions, it is important to openly consider possible trade-offs that can emerge between the expansion of productive activities and other industrial policy objectives. The following examples can be a useful starting point for the identification and/or prevention of unintended effects.

Trade-offs with “generate productive employment”:

- If firms increase their productivity by introducing labor saving technologies and/or process innovations, the relative or absolute demand for labor can decrease
- Moving into more technology intensive activities can reduce the demand for labor, in particular with regard to lower skilled employees

Trade-offs with “improve quality of employment”:

- If firms aim at productivity gains on the basis of a reduction of labor costs, wage increases and improvements of working conditions can be jeopardized in particular if the bargaining power of labor is low

Trade-offs with “ensure inclusive production”:

- The efficient access to industrial inputs is an important determinant of competitiveness for firms in the industrial hubs of a country and hence makes the development of productive activities in disadvantaged regions less likely

- Moving into more technology intensive sectors can reduce the demand for lower-skilled employees from disadvantaged segments of society
- The exploitation of abundant low-cost labor in large-scale industrial production can prevent fair wages and working conditions in particular for vulnerable groups (youth, women, disadvantaged minorities)

Trade-offs with “promote self-sufficiency”:

- A focus on highly productive activities can be in contradiction to the support of strategic sectors that cannot (immediately) achieve international competitiveness (e.g. pharmaceuticals, defense, cultural industries)

Trade-offs with “reduce pollution”:

- The significant expansion of productive activities generally increases resource consumption, emissions and waste
- The enforcement of environmental regulations is often perceived as a threat to the expansion of industrial activity in developing countries.

5) Considering IP instruments

	Regulation	Incentive / Disincentive	Information	Public goods and services
Firm productivity	Decentralized business administration Decentralized administration reduces travel distances and costs. Devolving administrative procedures to a regional or provincial level aims to encourage their usage by small or medium-sized enterprises.	Preferential credit for technology upgrading Technology can improve productivity by reducing input per unit or by increasing production speed. Banks provide credit options at subsidized interest rates to lift credit constraints and allow for the implementation of upgrading activities.	Productivity promotion Productivity promotion aims to disseminate information on successful productivity-enhancing methods and technologies. It includes the demonstration of production activities, introductions of new or more efficient technology and mentorship activities between firms.	Provision of transport and storage infrastructure Storage facilities increase inventory capacity, short-term flexibility to respond to demand changes, and reduce losses in particular in perishable good sectors. Improved transport and cargo systems increase productivity by reducing cargo damage and repair costs.
Demand for domestic goods	Import quota Import quotas determine the quantity of a good which may be sourced internationally. Quotas may aim to increase demand for domestic substitutes and domestically produced goods, as imports become unavailable.	Consumption subsidy for domestically produced goods Consumption subsidies create a price-gap between market and reference prices. As effective consumer income increases, demand for domestic production of subsidized goods expands.	Marketing services Information and marketing assistance aims to increase sales by reaching more consumers and clients. Services may include networking activities, assistance on communication and marketing strategies, and the provision of market data.	Public sector contracts with domestic preference Public agencies set a target percentage of domestically produced or sourced content for any services or products they purchase. Alternatively, public sector contracts are preferentially awarded to domestic applicants.
New productive activities	Extended export handling for unprocessed goods Extended administrative procedures at border points raise the price of exports. Processing activities within the country prior to export become more competitive.	Import tariff on processed goods A tariff levied on processed goods increases the cost of processed good imports. Governments may impose tariffs to encourage higher value activities within a country.	Feasibility study for production of high demand goods Increasing investor confidence can lead to a growth of investment projects, in particular in new sectors with little to no previous production capacity. Feasibility studies evaluate the design of projects and provide information on expected output, investment volume, or labor and resource requirements.	Public venture fund for technology start-ups Technology firms produce highly value-added goods, but face high capital investment requirements in the start-up face. Governments invest and become shareholders in technology start-ups to release start-up capital and strengthen development of the technology sector.

The instruments in this table are examples chosen to illustrate the differences between instrument types and intervention areas. The examples covered here are not meant to be exhaustive and since they are somehow arbitrarily chosen, they are not more relevant than other instruments which are not covered here. For more examples, see Annex I.

2. Deepen global market integration

1) Considering IP connections to national development goals

The lack of integration in the global economy is frequently highlighted as one of the crucial bottlenecks for the economic development of lower-income countries. For example, it is argued that the limited domestic availability of resources, skills and market opportunities that restrain non-industrialized countries can (only) be overcome by taking part in global trade and investment activities. Hence, deepening global market integration is in particular emphasized as a driver of **economic growth** for small countries. Among other things, export activities and the entry of foreign firms are assumed to provide the foundation for substantial **income generation** through productive expansion and upgrading. Furthermore, the positive **balance of payments effect** and the accumulation of foreign currency reserves through exporting are often highlighted as macroeconomic benefits.

2) Considering IP intervention areas

When a country aims to increase their level of global integration to take advantage of international trade and investment flows, there are a variety of industrial policy intervention areas that are commonly prioritized and will subsequently be described in more detail:

- Increased exports
- Attracting more foreign direct investment (FDI)
- Stronger cooperation between domestic and foreign firms

There are a number of reasons why countries may choose to craft industrial policy instruments which aim at **increased export**:

- Domestic firms can grow their operations because they can access larger markets for their goods and services
- Global market penetration through exports can stimulate processes of specialization, consolidation and upscaling of production
- Exposure to global competition can force domestic firms to become more efficient and produce goods and services at internationally competitive prices and quality

Some of the reasons why countries may design industrial policy instruments to **attract more FDI** are:

- Foreign investment helps to overcome domestic capital constraints to expand productive capacity
- Foreign investments allow technology absorption and access to modern capital equipment
- When foreign firms locate within a host country they can offer spillovers and learning for domestic firms (new practices, skills, production processes etc.)

Policy makers could prioritize increasing **cooperation between domestic firms and international firms**, for the following reason:

- The integration into Global Value Chains allows specialization and increased scale in production
- Buying from global suppliers can lower the price for required inputs into production
- Cooperation (and competition) with foreign firms can offer spillovers and learning for domestic firms

- Public private partnerships, joint ventures and technology licensing with international firms can boost levels of production

3) Considering IP target groups

When policy makers prioritize the objective of **global market integration**, there are a variety of different target audiences that have to be considered when crafting industrial policy instruments. In many countries, certain sectors may have characteristics that lend themselves better to global integration while others may exhibit stronger national tendencies. For example, nowadays many **labor-intensive sectors** (e.g. textiles or electronics assembly) are dominated by global value chains and hence might be considered more relevant to this objective than basic food products or consumer services (e.g. restaurants, retail).

A country could choose to target **foreign firms** through their industrial policy instrument as a way of attracting more FDI. Similarly, **domestic exporters** rather than domestic market oriented firms could be targeted for export promotion because of their familiarity with the required processes. However, **well established domestic firms** or sectors could also be considered relevant candidates for advancing export as they can build on their successful domestic track record, while new firms or sectors can require more time for learning and development before they are able to compete in global markets.

Successful global market integration often requires certain financial and organizational capabilities (e.g. to comply with trade procedures), therefore depending on a country's time-frame, they may opt for more "quick-wins" by targeting **medium to large firms** rather than building the capacities of micro or small firms. In a similar vein, firms in economic hubs (e.g. close to major ports) may have an advantage over rural firms in terms of their access to the international market unless significant infrastructure development is implemented to improve the access of more remote areas.

4) Considering IP synergies and trade-offs

Potential synergies with other objectives

As mentioned above, a certain level of participation in the global exchange of goods and services is often considered a requisite for successful industrialization in today's heavily interconnected world economy. Accordingly many analysts have stressed its potential positive interactions between increased global market integration and other industrial development objectives. The following examples can provide a starting point for policy makers as they consider how different interventions could potentially complement one another within an industrial policy package.

Synergies with "increase productive activities":

- Additional foreign investment in the productive sector can increase domestic value addition if it exceeds the available domestic investment capacities
- Foreign producers that introduce more efficient production technology and/or processes into the country can increase overall productivity

Synergies with "generate productive employment":

- New export activities and/or foreign investments can increase the demand for employment

Synergies with "improve quality of employment":

- Sometimes foreign firms abide by higher wage, health and safety standards to appeal to consumer preferences

Synergies with “build economic resilience”:

- Foreign producers who introduce new activities/products in the country promote diversification of production

Synergies with “improve resource-efficiency”:

- Foreign technologies used in production can potentially increase resource efficiency

Synergies with “reduce pollution”:

- Sometimes, foreign firms abide by higher environmental standards than domestic counterparts (e.g. because of consumer and/or investor preferences)

Potential trade-offs with other objectives

While increasing global market integration is regularly encouraged in industrialization strategies because of its prospective positive effects, a range of potential serious conflicts with other national priorities could limit the effectiveness of industrial policy packages in certain cases.

Trade-offs with “maximize domestic value capture”:

- The inflow of additional FDI can result in large scale foreign ownership of productive activities and the repatriation of profits to the firms home countries
- Productive activities that are strongly dominated by international firms can lead to the formation of enclave sectors that are not connected with domestic activities and hence provide very limited linkages
- The exclusive focus on participating in global value chains can be accompanied by a process of overspecialization in a small number of production tasks which leave limited ability for upgrading

Trade-offs with “generate productive employment”:

- The advanced technology and production processes sometimes dictated by foreign firms can be highly labor-saving
- Foreign firms often require higher skilled workers which may not be available in the national labor force

Trade-offs with “improve quality of employment”:

- Export-oriented production faces highest competition. Pressure to reduce costs is high, which can result in low-wages, poor working conditions and insecure employment

Trade-offs with “ensure inclusive production”:

- Foreign firms and export oriented firms are more likely to locate in economic hubs rather than disadvantaged regions
- Foreign firms can sometimes require higher skilled workers which can reduce the opportunities for poorer populations with lower-skills

Trade-offs with “build economic resilience”:

- Foreign investment and production can be very “footloose” and quick re-locations can make the host country more vulnerable

Trade-offs with “promote self-sufficiency”:

- Large amounts of imported goods and services by definition limits the self-sufficiency of a country
- Large amounts of foreign-owned production limits self-sufficiency if domestic enterprises are excluded from productive activities

Trade-offs with “reduce pollution”:

- Long-distance transport activities that characterize export-oriented sectors and global value chains contribute significantly to global GHG emissions
- Foreign investors that are attracted by lower environmental standards in the host country might condone practices that can have negative environmental consequences

5) Considering IP instruments

	Regulation	Incentive / Disincentive	Information	Public goods and services
Export	One-stop-shop One-stop-shops are public agencies designed to have full responsibility over activities relating to a particular trade issue, such as import-export processes. One-stop-shops aim to shorten bureaucratic procedures and to simplify exporters' access to public services.	Insurance for exporters Exporters face the risk of payment default or delay by foreign buyers. Insurance covers these losses and ensures liquidity to maintain operational capacity.	Export promotion Government agencies provide support to firms wishing to start or expand their exporting activities by offering market information, match-making services with potential partner firms, as well as familiarization and capacity-building workshops.	Export-processing zone Governments designate demarcated exporting zones. These zones are subject to a special legal and administrative regime. Firms located in EPZs often have access to simplified custom procedures, production and processing facilities, are eligible for duty-free imports, and more.
Foreign investment	Investment protection law Investors take into account country-specific risks before investing capital. Investment protection laws clarify the rights of investors and decrease fears of expropriation.	Tax holiday for new investors New investors receive tax breaks for a period after initial investment as an incentive to choose a country as their investment location.	Cost of doing business data base Governments publish an overview over the cost of conducting business in a country to improve the planning capacity of domestic firms and attract investors to countries with favorable business environments. The cost of doing business consists of incentives, fees, taxes, processing times and more.	Airport construction An operational, high capacity airport is a means to connect domestic production to the global market. A functioning airport is particular relevant in landlocked countries, and may be part of a strategy to promote a city as a regional hub or to attract foreign investment.
Cooperation with foreign firms	M&A legislation Mergers and acquisition legislation determines permissible take-overs or mergers of firms. Allowing for M&A between local firms and foreign firms can be a tool of facilitating capacity-building, know-how, and technology spillovers, and of saving the cost and time of building a new firm's credibility or brand name.	Low import tariff on bottleneck goods Where strategic production or consumption goods not available domestically, these bottleneck goods are subject to reduced tariffs. By increasing imports, this increases processing and production capacity in the domestic market.	Firm twinning schemes Governments facilitate connections between foreign firms or affiliates and domestic firms, for example potential future suppliers. Foreign firms coach domestic firms, provide networking and training opportunities as well as market information and lend staff.	Trade agreement Trade deals are bilateral agreements for reciprocal tariff reductions on certain goods. Trade agreements create larger markets and economies of scale. They can also build value chains and facilitate firm linkages.

The instruments in this table are examples chosen to illustrate the differences between instrument types and intervention areas. The examples covered here are not meant to be exhaustive and since they are somehow arbitrarily chosen, they are not more relevant than other instruments which are not covered here. For more examples, see Annex I.

3. Maximize domestic value capture

1) Considering IP connections to national development goals

If countries manage to integrate into the global economy by participating in productive activities, this does not yet guarantee that significant value is captured by the local economy. In particular a high reliance on foreign inputs into production can come at the expense of higher domestic linkages. For example, assembly operations that import all required parts and components will provide significantly smaller benefits than a productive activity that largely builds on domestic inputs, since the latter generates positive spillovers across the national value chain. Also high degrees of foreign ownership, accompanied by the repatriation of profits or the use of transfer pricing arrangements, can potentially create significant leakages that reduce the positive effects of foreign firms' presence in a developing country. Leakages refer to the loss of "multiplier" effects when profits or sales leave the country immediately so that money cannot circulate in the economy, thus stimulating income generation and production. Furthermore, with an increasing global division of labor many countries are getting locked into resource-based activities and are therefore now striving to add more value to their production by increasing the amount of processing which occurs before their resources are exported.

The development of productive activities can be a much stronger driver of **economic growth** if domestic production and consumption linkages are maximized and leakages are minimized. A more domestically oriented production system is also more likely to be accessible to a larger segment of society and can thus also contribute more to **income generation** and **poverty reduction**. Furthermore, the prevention of leakages can significantly increase the **domestic tax base** if higher profits occur locally and a more autonomous productive sector can contribute to the **economic sovereignty** of a country by making it less dependent on foreign goods, services and expertise.

2) Considering IP intervention areas

Industrial policy interventions of developing countries could prioritize a variety of concrete intervention areas that contribute to larger domestic benefits from productive activities, which will subsequently be described in more detail:

- Strengthen national value chains
- Increase domestic ownership
- Increase embeddedness of foreign firms in national economy
- Reduce imports

Some of the reasons why a country may choose to implement industrial policy instruments to **strengthen their national value-chains** include:

- Strengthening national value chains through the development of industries with strong backward linkages can boost demand for domestic inputs
- Industrial sectors that are linked to the primary sector can process domestically available raw materials (e.g. inter-sectoral linkages between agriculture, mining and industry) thereby increasing value-addition in the economy
- The emergence of industries which produce goods that are used in other areas of the economy can facilitate the emergence of new activities that are reliant on the availability of these inputs (linkages)

- Inter-firm coordination and linkages in the form of clusters or business networks can foster collective efficiencies which result in higher productivity

In order to increase the domestic benefits of production, a country could choose to prioritize **domestic ownership in the productive sector** because:

- Larger domestic ownership can increase the national tax base and allow for the capture of various tax revenues (profit, income, sales taxes, etc.) by preventing economic leakages
- It may be considered more legitimate for governments to support domestic industry rather than foreign industries, as they are owned by citizens of the country and have contributed more to the taxes which fund industrial policy initiatives
- Domestically owned firms are more likely to re-invest a larger share of their profits domestically and source from local producers
- Incomes from jobs generated by domestic industry are likely to be re-spent in the local economy which boosts broad-based sectoral growth and stimulates aggregate demand (via consumption linkages)

An alternative to promoting domestic industry is to encourage stronger **embeddedness of foreign firms in the national economy** because:

- If foreign firms become more embedded in the local economy by re-investing profits rather than repatriating them, domestic value capture will be stronger
- Domestic value capture can be maximized if foreign firms use a larger share of local content, e.g. domestic inputs with regards to labor, resources and other goods and services
- It will increase the longer-term gains if foreign firms transfer a larger amount of their technology and capabilities to domestic workers and firms

Another potential industrial policy area which could be prioritized to increase domestic benefits is a **reduction of imports** through increased domestic production of inputs, because:

- Increasing the domestic production of goods currently imported can improve the national balance of payments
- Reducing imports can minimize leakages out of the economy by keeping money circulating in the local economy rather than exiting to global markets
- Increasing consumption of domestically produced goods stimulates multipliers through domestic demand effects

3) Considering IP target groups

When policy makers aim to maximize the domestic benefits deriving from production, there are a variety of different target audiences that could be considered when crafting industrial policy instruments. Some countries focus on promoting **sectors with strong backward linkages** generated through domestic procurement or **linkages** generated through the use of productive inputs in other activities. For instance, the food industry in developing countries commonly uses a significant amount of domestically available inputs in particular from agriculture but also sells a large share of its output to domestic service sectors (e.g. retail, restaurants, and hotels). Another strategy that a country could take is to focus on **processing activities** that add value to available **resource-based sectors** in an effort to reduce the amount of unprocessed exports (e.g. mineral refining, wood processing and leather products).

Domestically owned firms are obviously a relevant target for this objective and so are firms that focus more on the **domestic market** rather than export. With regard to size, **MSME's** and clusters are sometimes considered to be more domestically oriented and may also be more interconnected with other local firms than larger enterprises.

4) Considering IP synergies and trade-offs

Potential synergies with other objectives

Efforts for strengthening linkages and reducing leakages can potentially have positive effects on many other industrial policy objectives. The following examples are meant to illustrate some potential synergies that can be reaped by aligning industrial policy instruments in a package.

Synergies with “increase productive activities”:

- Stronger domestic linkages can stimulate domestic demand which allows for the expansion of production
- The propensity of domestically owned firms to re-invest their profits locally helps to stimulate higher productivity and output in the economy

Synergies with “generate productive employment”:

- The expansion of domestic production directly contributes to the generation of productive employment opportunities
- Domestically owned firms are generally more likely than foreign-firms to employ labor-intensive methods (rather than capital-intensive methods)
- The strengthening of inter-sectoral linkages contributes to employment multipliers and indirect employment generation (across the national value chain)

Synergies with “improve quality of employment”:

- Wages can increase if domestic production is not boosting its competitiveness by limiting labor costs (through wage suppression or poor working conditions)
- The quality of employment can be increased if increased domestic profits lead to increased salaries or benefits for workers
- The quality of employment can improve if part of the increased tax revenues from expanded domestic production are used to improve worker benefits

Synergies with “ensure inclusive production”:

- Increased inter-sectoral linkages can potentially integrate lesser developed regions into the production networks of economic hubs (e.g. agriculture and mining national value chain development)
- Domestically oriented production is likely to be more in-line with the tastes, skills and buying power of the local population and hence may benefit consumers from disadvantaged segments of society

Synergies with “build economic resilience”:

- Replacing imports with domestic inputs can promote diversification through the development of new domestic activities in the production of materials, parts and components

- Reduced dependence on imports and exports can limit the vulnerability of the economy to global shocks
- Stronger domestic ownership and more embedded foreign investors can decrease the countries macroeconomic and financial-stability risks associated with global capital flow volatility (e.g. capital flight)

Synergies with “promote self-sufficiency”:

- A reduction of imports can boost self-sufficiency if domestic production of strategically relevant or cultural goods increases accordingly

Synergies with “reduce pollution”:

- Larger domestic production can reduce GHG emissions by limiting the amount of transportation required between producers and consumers

Potential trade-offs with other objectives

Apart from the above synergies, maximizing domestic benefits could also lead to trade-offs with other IP objectives as illustrated below.

Trade-offs with “increase productive activities”:

- Domestically sourced inputs may be more expensive than imports which can reduce productivity and potentially limit the level of production

Trade-offs with “deepen global market integration”:

- A more domestically oriented approach to industrial policy could reduce the investment propensity of foreign firms
- Encouraging domestic market orientation could affect the propensity of firms to engage in export activities
- Reduced imports and FDI could potentially limit the adoption of modern foreign technology

Trade-offs with “generate productive employment”:

- A focus on domestic benefits could potentially come at the expense of productive employment opportunities through foreign direct investment (FDI)

Trade-offs with “build economic resilience”:

- A domestic-market oriented production system can be more vulnerable to domestic demand shocks than a more diversified (domestic and global) market orientation

Trade-offs with “resource efficiency”:

- Domestically oriented firms could be less likely to improve resource efficiency in order to boost competitiveness or to comply with global consumer preferences

Trade-offs with “reduce pollution”:

- Producing goods domestically is more likely to pollute the local environment than sourcing them from abroad

5) Considering IP instruments

	Regulation	Incentive / Disincentive	Information	Public goods and services
National value chains	Priority handling for industries with inter-sectoral linkages Governments support producers in industries characterized by strong forward and backward linkages by creating fast-track access to public services and administration, such as express permits.	Subsidized access to production infrastructure Governments offer preferential and subsidized access to land and factory shells. Investment in these sectors becomes more attractive to investors.	Standardization training for suppliers Supplier capacities and resources are one determinant of growth potential in industries. Training programs for suppliers in a specific value chain enhance skills and capacities.	Production corridor Regional or national corridors connect production or transport hubs with economic linkage potential physically and economically. Production corridors draw on economies of scale and strengthen value chains.
Domestic ownership	Joint venture requirement Foreign firms are required to establish a joint venture with a domestic participant to gain access to the domestic market.	Tax refund for technology transfer Firms are eligible for tax refunds or exemptions in exchange for technology exchange and transfer to local firms, for example suppliers.	Investment monitoring Agencies monitor if investment projects have been successful and to what extent performance targets, set out in exchange for incentives, materialize.	State-owned enterprise In state-owned enterprises, governments engage directly with the market via autonomous public corporations or the nationalization of firms. Government-owned firms influence market structure, employment levels and product supply.
Foreign firm embeddedness	Restricted capital repatriation Governments restrict the repatriation of investment capital, for example via a percentage cap for a fixed period after initial investment.	Cash grant for supplier audits Firms receive cash grants to fund firm and product audits when they source from local supplier firms.	Supplier exhibition Suppliers present their services and businesses in an exhibition where producers and investors can connect with them. Supplier exhibitions aim to strengthen linkages between investors and domestic suppliers.	Public procurement with domestic linkage requirement To qualify for government tenders, foreign firms are required to establish linkages with domestic firms, for example as suppliers.
Reduce imports	Permit for target imports Extended administrative procedures at border points, such as pre-shipment inspections, increase the time and cost of cross-border trade. Domestically produced goods become more price-competitive in comparison with imports.	Tariff quota for target imports Import tariff quotas establish higher tariffs for imports beyond a fixed quota, making domestic sourcing more attractive for producers and consumers.	Production and processing guidelines Public agencies produce guidelines for production and processing methods. By facilitating access to cost-effective production strategies, guidelines aim to support a domestic production which can compete with imported goods.	Energy infrastructure To substitute energy imports with domestic energy, governments construct power plants or add capacity to existing plants. Energy infrastructure provision is often part of a long-term industrial development strategy to prevent future bottlenecks.

The instruments in this table are examples chosen to illustrate the differences between instrument types and intervention areas. The examples covered here are not meant to be exhaustive and since they are somehow arbitrarily chosen, they are not more relevant than other instruments which are not covered here. For more examples, see Annex I.

4. Generate productive employment

1) Considering IP connections to national development goals

While economic growth is frequently referred to as a precondition for employment creation, the inverse is equally true. In particular in a developing country context it is difficult to conceive a sustainable economic development process that does not actively engage the countries labor force. This is why a growth enhancing structural transformation process is commonly understood as a sectoral shift in the labor market, whereby people move from subsistence agriculture and services into more productive, higher-waged activities. Hence, the emergence of a larger number of productive employment opportunities can be considered a core driver of **economic growth** in a mutually reinforcing process.

A more employment intensive growth pattern is also likely to have a larger impact on **poverty reduction** and **income generation** than a more capital intensive process as poor people commonly derive most of their income through work. Hence, development strategies commonly refer to employment generation as a major channel for poverty reduction. In particular if employment is created in a more productive sector, the earning opportunities of the working poor can rise significantly. A wide-spread generation of productive employment opportunities can also contribute to **reducing inequality** as it can stimulate the expansion of a middle class. The creation of a significant number of employment opportunities can also foster the buy-in of a larger segment of society into a structural transformation process which can increase **social cohesion**, government legitimacy and prevent tension and conflict.

2) Considering IP intervention areas

If the generation of productive employment is a core priority within an industrial policy package, a range of concrete intervention areas could be prioritized, which will subsequently be described in more detail:

- Increase labor demand in productive activities
- Increase number of skilled-workers
- Improved labor market matching

With regard to an **increased number of job opportunities in productive activities** a range of considerations can be taken into account when designing an industrial policy package, including:

- By promoting employment-intensive activities, countries can increase the number of productive employment opportunities
- Increasing the employment-intensity of existing activities with the application of more appropriate technology or process solutions can increase levels of employment
- Fostering activities with high employment multipliers (e.g. activities with strong consumer or producer linkages) can maximize indirect and induced employment effects across the national value chain
- Promoting activities with strong linkages to agriculture (forward or backward) can help to boost productive employment opportunities in rural areas
- The support of entrepreneurship and business start-ups can generate new productive employment opportunities

Apart from enhancing the demand for labor, productive employment opportunities can be boosted by **increasing the number of skilled workers within the economy** for a number of reasons, including:

- Education and skills initiatives can improve the ability of workers to enter into emerging productive employment opportunities
- A higher skills population can help to stimulate the development of new productive activities which generate new jobs
- Upgrading skills can enhance the transferability of workers and e.g. help job-seekers move into industry-related services
- On the job training can improve productivity and hence make employment more lucrative and sustainable
- Re-integrating the highly-skilled diaspora into the domestic economy can have a considerable effect on innovation and entrepreneurship and stimulate productive employment generation.

Improving the **labor market matching** by ensuring that workers with relevant skills find suitable employment opportunities can enhance the effectiveness of the labor market from the perspective of workers and employers in a number of ways:

- If firms have access to more suitable skill profiles they are more likely to hire more employees
- If a better matching of workers skills is ensured it will enhance the propensity of the labor force invest in increasing their skill-levels
- Upskilling workers' skills in accordance to the requirements of their current job can help to effectively overcome skill shortages and contribute to employment retention
- Anticipating the future demand for specific skills in the productive sector can support a more targeted effort in upgrading the skills base of a country and prevent "brain drain"

3) Considering IP target groups

The generation of additional productive employment generally requires the targeting of both employers and workers. With regard to a sectoral perspective, some countries may choose to target more **employment-intensive** (rather than capital-intensive) sectors (e.g. light manufacturing). Similarly **industry-related services** can also be explored as they frequently have the potential for large employment generation.

Countries that aim to increase the number of new job opportunities could contemplate interventions that focus on **start-up companies** and **new investors** as these firms tend to be the largest generators of new jobs in an economy. A focus on **micro and small enterprises**, including **informal firms** and **self-employed workers**, could be deemed relevant both because of their large number and their potential to create new employment opportunities on the basis of improved productivity and market access.

Indirect employment generation can be a significant contributor in particular if **domestically oriented firms** with strong linkages and resulting employment multipliers can expand their operations. For instance, activities that are strongly connected to the **agriculture sector** (e.g. food industry) can positively affect the employment of a large number of rural workers.

Skills enhancement and matching initiatives usually require a focus on the **education and training providers** in a country, possibly with a focus on institutions like technical and vocational training centers that focus on industry specific skills development. **Sectoral associations** and chambers can potentially also play a role in bridging the gap between workers and firms when it comes to matching skill profiles to jobs or anticipating future skill needs.

4) Considering IP synergies and trade-offs

Potential synergies with other objectives

Levels of employment have an impact on many other areas of the economy. Some of the synergies and trade-offs that can arise between a focus on productive employment and other industrial policy objectives are outlined below.

Synergies with “increase productive activities”:

- An expansion of productive employment usually coincides with output growth and value addition
- More productive employment opportunities can increase the disposable income of workers and can hence boost aggregate demand for goods and services
- Higher skilled workers and better skill matching will contribute to the productivity of firms which increases levels of production

Synergies with “deepen global market integration”:

- Many labor-intensive activities (e.g. in light manufacturing) are characterized by their export potential on the basis of comparative cost advantages (the relative abundance of cheaper labor)
- The availability of a large number of skilled workers can be a relevant factor to attract FDI and labor-intensive assembly activities in global value chains

Synergies with “maximize domestic value capture”:

- Rising income from productive employment opportunities leads to higher levels of demand for basic consumer goods which can stimulate domestic production and investment

Synergies with “improve quality of employment”:

- More productive employment is a necessary condition for rising wages and improved working standards (via profits being shared between owners and workers)
- Higher skilled employees are more likely to access higher wages and better working conditions

Synergies with “ensure inclusive production”:

- New productive employment opportunities that are generated in disadvantaged regions and/or for marginalized populations can reduce inequality

Synergies with “build economic resilience”:

- Increasing the level of productive employment opportunities directly contributes to rising incomes which can stimulate new productive activities that cater to new demand in the economy

Potential trade-offs with other objectives

A focus on employment generation in industrial policy could potentially lead to trade-offs with other objectives as illustrated in the following examples.

Trade-offs with “increase productive activities”:

- By definition labor productivity will be lower if more employment-intensive production processes are applied. If productive activities are limited to a certain set of employment-intensive sectors, this may reduce productive activities.

Trade-offs with “deepen global market integration”:

- Lowering labor costs (by minimizing employment) is an increasingly common strategy to boost competitiveness in global markets
- More employment intensive production techniques may not be compatible with the adoption of high technology solutions of foreign investors

Trade-offs with “reduce pollution”:

- Labor-intensive production techniques which generate higher levels of employment might be more pollutant than highly automated techniques that allow for the minimization of emissions and waste

5) Considering IP instruments

	Regulation	Incentive / Disincentive	Information	Public goods and services
Labor demand	Local hire requirement Local hire clauses require foreign firms to meet specified employment targets to avoid penalties or to gain additional incentives.	Tax deduction of payroll costs Firms are eligible for deducting a percentage of payroll costs from taxable income as a broad wage subsidy.	Labor statistics The publication of employment statistics, job profiles and openings, and other data on the domestic labor force aims to facilitate recruitment procedures and to give potential investors an overview of the availability of labor for investment projects.	Public works program Temporary public investment program engage laborers in efficiency-enhancing projects, for example road works. Public works programs aim to generate employment, inject money into the local economy, and raise demand.
Skilled workers	International validity of qualifications By streamlining training courses and certificates with international standards, workers receive access to high quality education and access to a larger job market.	Cash grant for in-house training program The government provides funding for in-house training programs to increase the skill level of the local workforce.	Diaspora network Where governments have knowledge of diaspora communities, they can facilitate the establishment of networks and information exchange to create spillover effects and transfer know-how, to reduce the effects of the migration of skilled and trained workers.	Vocational schools Technical and vocational schools provide specialized training in technical subjects. Technical and vocational schools may be linked with industry sectors and respond to industry demand with curriculum changes.
Job matching	Regulation of educational content Government agencies regulate school and university curricula to ensure a uniform level of qualification and to respond to industry labor demands.	Cash grant for firm-specific training Firms organize on-the-job training programs, with government support or funding to encourage local hire. Courses familiarize workers with technology and production processes.	Curriculum co-development Governments promote the co-development of curricula between educational organizations and industry in order to make the labor force more responsive to current and future industry labor demand.	Recruitment service Recruitment service providers coordinate recruitment procedures for firms by matching labor supply with labor demand. Recruitment services are often part of incentive packages to foreign investors.

The instruments in this table are examples chosen to illustrate the differences between instrument types and intervention areas. The examples covered here are not meant to be exhaustive and since they are somehow arbitrarily chosen, they are not more relevant than other instruments which are not covered here. For more examples, see Annex I.

5. Improve quality of employment

1) Considering IP connections to national development goals

Historically, labor movements were most powerful within the industrial sector, which meant that formalized work arrangements became the accepted model of industrial relations in developed countries. It is for this reason that the traditional approach to industrial policy is largely based on visions of a “fordist” style factory where workers are paid enough to buy the cars they are producing. On this basis, industrialization is often seen as a key driver for the development of a “middle class” by providing high-wage jobs for lower-skilled workers. However, expanding labor market inequalities, persistent informalization and the increasing institutionalization of precarious forms of employment and suppressed wages have become a common facet of productive activities in developing countries as more and more productive activities are being sub-contracted out to informal firms and undertaken by casual informal workers.

Low earnings are a major determinant of poverty in developing countries and **rising incomes** from remuneration can lead to higher purchasing power which is vital for **poverty alleviation** and a stimulus of **aggregate demand** in the economy. Many developing country governments are consequently recognizing the need to intervene in the economy through industrial policy in order to ensure a pattern of growth and structural change that generates quality employment opportunities which are safe, secure and well paid. Additionally, there is increasing concern about a “race to the bottom” in regards to employee benefits and health and safety considerations in production that ultimately end up undermining the social “development” benefits of structural transformations. Therefore, improving the quality of employment is an increasingly relevant industrial policy objective for many countries that can contribute to **reducing inequality** and improving **social cohesion**.

2) Considering IP intervention areas

When governments prioritize the improvement in the quality of employment in their economies, there are a number of different intervention areas they could consider, which will subsequently be described in more detail:

- Higher wages
- Better working conditions
- More employment benefits

Some of the reasons why a government might choose to use industrial policy to promote economic activities that offer **higher wages**, include:

- Higher wages directly contribute to rising incomes and poverty reduction if working poor can access higher wages
- Higher wages can boost firms performance by attracting better workers and can reduce turnover by fostering worker loyalty
- Higher wages stimulate domestic demand by increasing consumer buying power
- Higher wages expand the tax base
- The productivity and performance of workers can improve when they see prospects for wage improvements and advancement

Some governments may choose to use industrial policy to encourage **better working conditions (health, safety, hours, etc.)** within economic activities because:

- The health and safety of the workforce is a critical determinant of stable industrial relations and government legitimacy
- Improved health, safety and hours standards in the workplace improve productivity
- The government can play an important role in correcting the power imbalance between business and labor to ensure workers are afforded their human rights in the workplace
- Improved safety standards reduce costly accidents and health care costs
- Instituting maximum working hours can generate more employment opportunities (e.g. instead of one person working 15 hours, 2 people could each work 7.5 hours)
- Improved health, safety and hours standards in the workplace might be preconditions for the integration into global value chains, as global players are responsive for consumer protests in the target markets.

Some of the reasons why a government may choose to aim at improving **employment benefits** (e.g. secure employment, insurance, etc.) include:

- Ensuring secure employment opportunities boosts worker loyalty and enhances the sustainability of firms
- Employment protection encourages workers to take risks and innovate
- Social protection schemes such as unemployment insurance can reduce the risk of populations falling into a “poverty-trap” due to the structural change process and the destruction of traditional forms of employment
- Insurance and pension schemes can greatly enhance income security so that there is higher spending and investment in the economy

3) Considering IP target groups

When a government prioritizes improving the quality of employment in its economy there are numerous target groups which could be considered. Many times safe, secure and well-paid employment is assumed to occur within the formal sector, particularly within **medium and large firms**. However, in many developing countries the majority of the population are in the **informal sector** either as **self-employed**, owners of **informal firms** or as **casual informal workers**. Governments may consider specifically targeting these groups in order to improve the quality of employment as improved wages, working conditions and benefits can significantly reduce poverty and encourage formalization.

Cooperative enterprises could also be a potential target for industrial policy interventions, as their profit-sharing and democratic governance structures generally result in higher quality employment opportunities. Working with and supporting **workers associations or unions** are also potential targets as they can help to improve labor-management cooperation and enhance social stability. Alternatively, governments may choose to focus on improving the quality of employment within highly **hazardous sectors** (e.g. leather, mining) in an effort to improve public health and productivity.

4) Considering IP synergies and trade-offs

Potential synergies with other objectives

Promoting the quality of employment can potentially have significant synergies with other objectives as illustrated in the following examples.

Synergies with “increase productive activities”:

- Higher quality work environments help to boost productivity and worker loyalty which contributes to longer-term production
- Better health and safety standards can reduce productivity losses caused by accidents, sickness, etc.
- Higher wages result in higher levels of demand which can result in the expansion of production

Synergies with “deepen global market integration”:

- Many global firms are now requiring higher working standards in their own global operations and from their suppliers
- Research indicates that global firms identify a higher quality workforce and social stability as more significant considerations for investment than low labor costs

Synergies with “maximize domestic value capture”:

- Higher wages increase disposable income which particularly for poorer populations will be spent on domestically produced goods and services which stimulates demand and can strengthen national value chains

Synergies with “generate productive employment”:

- Firms that provide higher wages and secure work environments are also more likely to invest in skills development and provide more productive employment opportunities

Synergies with “ensure inclusive production”:

- Inequality can be reduced if the quality of employment is improved for disadvantaged groups (e.g. youth, women, poor) who are generally subject to worst working conditions
- Income inequality can be significantly reduced if government’s help to correct power imbalances between businesses and workers to ensure profit sharing and rising wages
- Better health and safety conditions minimize the risk of disabilities caused in the workplace

Synergies with “build economic resilience”:

- Improved health and safety conditions contribute to longer-term sustainability of sectors by ensuring labor supply
- Insurance and pension funds can act as an important buffer in the event of shock
- Higher purchasing power can be an important stimulus for economic recovery after shocks

Synergies with “reduce pollution”:

- Efforts to improve workers health and safety can minimize hazardous contaminants in the workplace (e.g. hazardous chemicals, metals, fumes etc.)

Potential trade-offs with other objectives

Prioritizing the improvement of the quality of employment could also lead to trade-offs with other IP objectives. Some examples follow.

Trade-offs with “increase productive activities”:

- Higher labor costs can reduce the overall productivity of operations and lead to lower levels of production

Trade-offs with “deepen global market integration”:

- Some global firms choose investment locations on the basis of weak labor regulations
- Export-oriented producers are increasingly competing on the basis of low labor costs

Trade-offs with “generate productive employment”:

- Higher labor costs and regulations can limit the number of employees hired

Trade-offs with “ensure inclusive production”:

- Quality employment opportunities are less likely to be made available to low-skilled and marginalized segments of society

Trade-offs with “build economic resilience”:

- More stringent labor regulations can minimize the flexibility of firms during shocks

5) Considering IP instruments

	Regulation	Incentive / Disincentive	Information	Public goods and services
Higher wages	Minimum wage Minimum wage is a part of active wage policy and sets either a broad-based or a sector-specific minimum wage. Compliance is partially determined by access to information, awareness and enforcement.	Preferential credit for cooperatives Cooperatives receive access to preferential credit at subsidized rates. By supporting cooperatives, governments promote inclusive business models with fair wages.	Promotion of collective bargaining systems Governments provide information on legal systems of collective bargaining, such as negotiations between trade unions or associations and employers.	Wage standards in state-owned enterprises By setting high wage standards in state-owned enterprises, the public sector competes with private firms for skilled workers and incentivizes them to offer higher wages.
Working conditions	Labor standards National labor laws establish workers' rights regarding working conditions, pay, strike rights and association rights. They streamline contracts, create transparency, and provide a basis for monitoring activities.	Tax deduction of workplace improvement measures Firms can deduct workplace or safety improvements from their taxable income.	Model contract Governments provide model contract forms to facilitate access to workers' rights and standard clauses or conditions. Model contracts help workers understand and compare the legality of their contracts and aid in monitoring firms.	Housing for workers Firms have access to housing for workers in the vicinity of their production sites. Quality public housing improves the working and living conditions of workers.
Employee benefits	Regulation of company pension schemes Governments determine which pension schemes and minimum benefits companies must offer their workers.	Tax reduction for workplace benefit schemes Employers who implement workplace safety or worker benefit measures beyond the minimum legal requirement are eligible for tax breaks.	Promotion of CSR initiatives Governments support and promote the integration of social concerns into business operations. Increasing the visibility of these issues can increase public awareness and influence consumer behavior.	Unemployment benefits Unemployment benefits reduce the effects of income loss on individuals. Benefits target income base, employability, temporary employment, insurance or propensity to save, to ensure a social protection net in the event of job loss.

The instruments in this table are examples chosen to illustrate the differences between instrument types and intervention areas. The examples covered here are not meant to be exhaustive and since they are somehow arbitrarily chosen, they are not more relevant than other instruments which are not covered here. For more examples, see Annex I.

6. Ensure inclusive production

1) Considering IP connections to national development goals

Traditionally productive sector development has been considered mainly with regard to its aggregate impact on economic growth, with the assumption that a “trickle-down” effect will distribute the gains within a society. More recently, inequality considerations have become more prominent in economic development discussions and it is often acknowledged that inequality can be a signal of lack of income mobility (i.e. the ability to significantly improve one’s earnings over time) and hence represent a persistent disadvantage for particular segments of society. The development of the productive sector can contribute to a **reduction of inequality** if there is widespread ability to participate in and benefit from these productive activities. Hence, industrial policy packages can be conceived in a way that interventions influence the joint evolution of equality and growth.

A more inclusive structural transformation process would need to ensure that currently disadvantaged groups can disproportionately benefit from growth. Certain populations, such as women, youth and ethnic minorities are commonly excluded from the benefits of structural transformations and bear the majority of the costs. In particular if widening inequality is threatening **social cohesion**, additional productive opportunities that contribute to **income generation** for the poor can help to reverse this trend. Infrastructure improvements that are brought about by a more dispersed production system can also have ancillary effects on spatial connectivity and **poverty reduction** in rural areas. Widening inequality can also have significant repercussions on growth and macroeconomic stability and in particular a highly imbalanced productive sector (in terms of regional or demographic participation) can concentrate political and decision making power in the hands of a few. Accordingly, a more inclusive industrialization trajectory can also be considered a safeguard of long-run **economic growth** and **political stability**.

2) Considering IP intervention areas

If industrial policy packages aim at a more inclusive productive sector, they could prioritize interventions that disproportionately benefit actors which are currently excluded from productive activities. Territorial disparities are a very common dimension of industrialization patterns and so are discrepancies in the benefits that different social groups can reap from an expansion of productive activities. Therefore, two potential intervention areas which relate to the objective of a more inclusive production structure and will subsequently be described in more detail include:

- Increasing the level of production in underdeveloped regions (regional inclusion)
- Increasing productive opportunities for disadvantaged groups (social inclusion)

If industrial policy packages aims at **increasing productive activities in underdeveloped regions**, the following notions can provide a starting point for the design of interventions:

- Space-specific interventions can be relevant as industrialization is often characterized by agglomeration, clustering and spatial specialization of productive activities which can influence the suitability of various instruments
- Industrial policy can build on locational advantages of different regions (e.g. access to strategic natural resources for production, geographic proximity to ports or neighboring markets etc.)

- Specific efforts to tackle regional inequality can reduce social conflict and broaden societal backing of the structural transformation process
- Balanced productive sector expansion across a country can facilitate the integration of rural populations in national development through rural-urban linkages or inter-sectoral linkages from agriculture and mining based production activities

In addition to the spatial dimensions of inequality, industrial policy design can also prioritize the generation of **more productive opportunities for disadvantaged groups** on the basis of a range of considerations:

- Industrial policy can focus on providing better business and employment opportunities for the poorest segment of society in general or for specific groups (e.g. youth, women or ethnic/religious groups)
- Productive opportunities for working poor can be critical to buffer against the negative effects of structural change and ensure that large populations do not fall into a poverty trap when traditional forms of production (e.g. small-scale agriculture) are subject to “creative destruction”
- Additional productive opportunities for youth can be critical to improve their confidence to actively participate in the economic transformation of the country and to provide a foundation for long-term growth and development.
- The economic empowerment of women has a powerful effect on poverty alleviation, as women’s incomes tend to act as communities’ ad-hoc social safety nets and are generally used to ensure basic needs fulfillment and investments in children’s education
- Promoting entrepreneurship and productive opportunities for disadvantaged ethnic or religious groups can contribute to social cohesion and broaden government legitimacy by integrating traditionally separated segments of society through joint economic activity
- Industrial policy initiatives that encourage the participation of various ethnic or religious groups can leverage a more diverse set of productive activities that can access additional markets and promote cultural/creative industries

3) Considering IP target groups

In order to tailor industrial policy interventions to inclusiveness outcomes, it is of utmost importance to clearly define the expected beneficiaries of interventions, e.g. on the basis of regional or social variables (income, gender, age, ethnicity, religion, etc.). Depending on the specific context, areas or groups can be defined rather broadly (e.g. rural regions, women) or more narrowly (e.g. a municipality or a tribal community).

In order to effectively generate disproportionate benefits for these groups, it is relevant to consider which target groups’ behavior needs to be affected by policy interventions. In many cases productive **sectors that link to agriculture or mining** (e.g. mineral processing) can be relevant targets in order to improve rural integration while low-skill **urban services** (e.g. household services, vendors) can be leveraged to benefit the poor population in cities. In some instances, governments may choose to target **labor-intensive activities** (e.g. textiles) where female and/or young employment opportunities may be more abundant. **Cultural and creative industries** (e.g. handicrafts) can be an important entry point for generating opportunities for specific indigenous groups and can help to foster and upgrade traditional industries.

With regard to firm characteristics, **micro and small firms** as well as **informal enterprises** can be relevant audiences if they account for a large share of entrepreneurial activities and employ the bulk of working poor. **Foreign investors** might also be considered as relevant partners for creating new opportunities in remote areas that require significant infrastructure enhancements to kick-start a productive transformation while encouraging ethnic minorities to become **entrepreneurs** can be a relevant foundation for overcoming marginalization. Various types of **cooperatives** are another common channel to empower disadvantaged groups through their profit sharing mechanisms and more participatory work arrangements.

4) Considering IP synergies and trade-offs

Potential synergies with other objectives

Ensuring inclusive production can show synergies with other policy objectives that could be exploited in a tailored policy package, e.g.:

Synergies with “increase productive activities”:

- By providing productive opportunities for disadvantaged groups it is possible to employ currently under-utilized labor resources in the economy which leads to higher production
- Lower levels of income inequality can enhance economic growth and boost domestic demand

Synergies with “deepen global market integration”:

- The global market for fair trade, ethical and cultural products is growing and increasingly focuses on the employment of disadvantaged groups
- Many resource-based foreign investments locate in more rural areas that were traditionally less involved in productive activities

Synergies with “maximize domestic value capture”:

- Improving the incomes and productive opportunities of disadvantaged groups can help to stimulate the creation of new linkages through consumption and sourcing
- Poorer communities are more likely to spend additional disposable income on local produce which stimulates demand and can counterbalance leakages that come from the consumption of imported luxury goods

Synergies with “generate productive employment”:

- Encouraging entrepreneurship of disadvantaged groups can spur employment generation
- Boosting inclusive production can stimulate indirect employment generation through new rural-urban linkages and spillovers

Synergies with “improve quality of employment”:

- Disadvantaged groups commonly are subject to the worst working conditions and by promoting more productive opportunities the quality of their employment can be improved

Synergies with “build economic resilience”:

- More inclusive production can promote a more diversified production structure which can reduce the negative effects of shocks
- Rural and poor populations are commonly more vulnerable to the negative effects of climate change and thus can benefit most from climate change adaptation initiatives
- If larger segments of society are involved in productive activities it can reduce the risk of social conflicts and increase their resilience to shocks

Synergies with “promote self-sufficiency”:

- A more broad-based production of goods and services can improve the populations access to the incomes and products required for basic needs fulfillment in all areas of the country

Synergies with “improve resource-efficiency”

- Improved regional integration and connectivity can help to ensure that firms have better access to reliable and higher quality inputs which can improve resource efficiency

Potential trade-offs with other objectives:

However, there might also be context-specific trade-offs with other policy objectives that need to be considered accordingly. Some examples follow.

Trade-offs with “increase productive activities”:

- Promoting a more even geographical distribution of production can minimize the efficiency of productive activities that generate agglomeration economies by concentrating in a single economic hub
- Disadvantaged regions often lack adequate infrastructure and access to production inputs which can curtail productivity
- Disadvantaged groups commonly are lower-skilled and therefore less productive

Trade-offs with “deepen global market integration”:

- Global competitiveness is more difficult to achieve in regions that lack modern trade infrastructure and access to reliable energy, etc.
- Firms from disadvantaged regions will potentially find it more difficult to engage with international enterprises and integrate into global value chains
- Investors who want to exploit the low labor costs of disadvantaged groups may be discouraged to invest if efforts are made to ensure their empowerment

Trade-offs with “maximize domestic value capture”:

- Cluster benefits and linkages through co-location in economic hubs could be minimized by promoting regional dispersion of production

Trade-offs with “generate productive employment”:

- Upgrading the skills of disadvantaged groups can be significantly more challenging and therefore the employment benefits may take longer to realize
- Employment generation in disadvantaged regions can require longer time horizons

Trade-offs with “improve resource-efficiency”:

- Rural enterprises and informal firms tend to be less resource-efficient because of less technology-intensive production processes

Trade-offs with “reduce pollution”:

- By encouraging the industrialization of lesser-developed regions there is a likelihood that pollution and resource depletion in these regions will increase

5) Considering IP instruments

	Regulation	Incentive / Disincentive	Information	Public goods and services
Regional inclusion	<p>Credit quota for target regions Commercial banks are required to provide a percentage of their lending to firms from selected regions. Credit can be provided at market rates or subsidized rates.</p>	<p>Tax incentive for location in target regions Special tax breaks apply to firms which locate their production activities in target regions.</p>	<p>Location marketing Marketing activities focus on attracting businesses to a location or community by conducting promotional and networking activities.</p>	<p>Provision of energy infrastructure Unreliable energy provision in a region leads to productivity losses and reduces the willingness of firms to invest in business activities. Investments in energy infrastructure aim to boost the appeal of regions.</p>
Social inclusion	<p>Land surveying Land surveying and land registration secure land ownership and tenure. Publication of land titles encourages owners of land to make long-term investment and facilitates access to credit at commercial banks.</p>	<p>Cash grant for target group-owned firms Cash grants for firms owned by marginalized groups often aim to increase entrepreneurship, management, employment and training for groups that have lower rates of participation in these activities.</p>	<p>Informal sector association Governments support the formation of associations representing the interests of informal workers. Alternatively, existing organizations, such as trade unions, expand their activities to cover informal workers in their respective sectors.</p>	<p>Development bank Development Banks are instruments of strategic economic development where capital markets are incomplete or underdeveloped. They provide long-term loans, loan guarantees, and financial services to low-income household and SMEs.</p>

The instruments in this table are examples chosen to illustrate the differences between instrument types and intervention areas. The examples covered here are not meant to be exhaustive and since they are somehow arbitrarily chosen, they are not more relevant than other instruments which are not covered here. For more examples, see Annex I.

7. Build economic resilience

1) Considering IP connections to national development goals

The increasing global integration of economic activities has been accompanied by an increased exposure and vulnerability of developing countries to global shocks and crises. Fluctuations in global prices, macroeconomic (incl. supply and demand) shocks as well as disruptive weather and other climate change related disasters are key risks that can have devastating effects on the structural transformation process. Accordingly industrial policy interventions could focus on reducing the vulnerability of their country to future shocks by making productive activities more resilient to uncertain global undercurrents. Industrial policy can play a critical role in this process by building a more diversified economic structure and promoting a more strategic integration into the world economy that reduces the vulnerability to shocks and ensures a more rapid recovery. A more resilient productive sector will contribute to economic **stability** and can be the foundation for a more **sustainable economic growth** process.

In addition, a more diversified industrial structure will allow for a more strategic integration in the global economy which can be an important underpinning of **national independence** and **reduce inequality** among countries. A more diverse range of productive opportunities will also provide the foundation for **broad based development** and **income generation** and hence can contribute to **poverty reduction**.

2) Considering IP intervention areas

If a more resilient economic structure is a core objective of industrial policy, a range of concrete intervention areas, which will subsequently be described in more detail, could be considered, including:

- Product diversification
- Market diversification
- Increased Domestic Competition
- Diversified input sourcing
- Climate change resilience

There are a variety of reasons why a country may choose to encourage diversification through the **production of a more diverse range of goods and services**, including:

- A more diversified production portfolio is less vulnerable to the negative effects of a decline of demand (or prices) for individual products
- More diversified economies are generally more dynamic which can spur innovation and value addition in the productive sector which enhances economic resilience
- In the event that a particular sector or activity is no longer viable, a more diversified economy will suffer less
- The productive sector will be even more resilient if a country's export portfolio is diversified and in line with world demand
- A broader export base can lower instability in export earnings and expand export revenues
- If countries which are heavily dependent on commodity exports diversify away from resource-based production, they can reduce their vulnerability and ensure sustainable growth after resources are depleted or in the event of a commodity price shock

Apart from product diversification, a country may also choose to boost their economic resilience by focusing on **supplying to a wider range of markets**, because:

- By supplying to a more diverse set of markets a country is less vulnerable to declining demand in an individual market
- Supplying to a more diverse range of markets can increase producers bargaining power with buyers, improve the recognition of national products internationally and increase export prices

Countries may also try to encourage **more diverse supply markets** for similar reasons:

- Sourcing production inputs from a variety of markets ensures their reliable availability even in the face of shocks in particular input markets
- Sourcing from a more diverse range of markets can increase producers bargaining power with suppliers which can lower prices

A **reduction of industrial concentration** to increase competition is another potential intervention point for governments who aim to increase their economic resilience, because:

- Many developing countries face the challenge that a small number of large firms dominate a large share of certain activities, which can lead to anticompetitive behavior, collusion and the extraction of monopoly rents
- A reduction in monopolies or concentrated production in particular activities can ensure resilience in the face of shocks or changes in market dynamics (e.g. bankruptcy of large firms)
- Consumer prices can be reduced by enhancing competition which will improve consumer welfare
- More competitive industrial structures can reduce cartelization/collusion to provide a foundation for productivity increases and international competitiveness of domestic producers

Economic resilience can also be enhanced by ensuring that productive activities are better **adapted to climate change and natural disasters**:

- Natural disasters can have significant costs and disruptive effects on productive activities in developing countries, which can partially be reduced with country-risk specific adaptation measures
- In situations where production is concentrated in resource-based activities (e.g. agriculture, fisheries, water intensive industries etc.), economies may be particularly vulnerable to climate change effects
- Investment in productive activities which are better adapted to negative effects of climate change can ensure long-term sustainability of production
- Investment in infrastructure which can help protect productive activities from impacts of climate change can improve the economic resilience

3) Considering IP target groups

Industrial policy measures to enhance resilience can target a variety of actors depending on country specific factors and the prioritized intervention areas. **Resource-based sectors** are commonly discussed with regard to diversification efforts as they tend to be most vulnerable to price shocks. Broadening the scope of resource-based activities, stimulating the emergence of

non-resource based start-ups or attracting **foreign investors** to move into new activities could also be considered relevant target groups for industrial policy interventions.

Some countries may decide to target **large domestic firms** to reduce their dominance in specific activities in an effort to reduce industrial concentration. While other countries could decide to encourage large firms to invest more in R&D and experiment with new product developments. If a country decides to enhance their economic resilience by focusing on market diversification, they might decide to target **exporters** that are capable of reaching out to new foreign markets or who could source from new **global input suppliers**.

With regard to climate change adaptation, **MSMEs** commonly have lower adaptive capacity and could therefore be good candidates for government support, while **larger firms**, **PPPs** and **foreign investors** could be relevant options for overcoming the financial constraints, e.g. for creating more resilient infrastructure and production sites.

4) Considering IP synergies and trade-offs

Potential synergies with other objectives

Building a more resilient industrial structure can also have positive effects on other objectives. Some examples of these potential synergies are summarized here.

Synergies with “increase productive activities”:

- Diversification can be achieved by moving into the production of new goods and services that offer higher demand, are more technology-intensive or allow for higher value addition which enhances production
- Broadening productive activities widens the space for productivity enhancement

Synergies with “deepen global market integration”:

- Supplying a more diverse product portfolio to more diverse trading partners enhances overall export potentials
- Sourcing inputs from a more diverse set of trading partners can reduce production costs through access to lower priced raw materials and intermediate inputs

Synergies with “maximize domestic value capture”:

- A more diversified economy has a higher potential for inter-sectoral linkages and positive spillover effects

Synergies with “generate productive employment”:

- A more diversified economy can offer a wider-range of productive employment opportunities that are appropriate for various levels of skilled workers
- After a shock to the economy, a more diversified economy can better provide alternative employment opportunities for populations who have lost their jobs

Synergies with “improve quality of employment”:

- A less concentrated industrial structure can increase workers negotiation power with regard to wages, benefits and other working conditions

- More diverse, higher value-added activities have the potential to offer higher wages and better quality employment to their workers

Synergies with “ensure inclusive production”:

- A less concentrated productive structure offers more opportunities for firms from various regions to participate in the economy
- A more diversified economy has the potential to create linkages which integrate disadvantaged regions or groups into national value chains

Synergies with “promote self-sufficiency”:

- Less concentrated productive sectors can ensure the long-term supply of a larger variety of strategic goods and services to the economy

Potential trade-offs with other objectives

There might however also be trade-offs between building a more resilient productive structure and other industrial policy objectives, e.g.:

Trade-offs with “increase productive activities”:

- Economies of scale can be larger in a more concentrated production structure with a small number of large firms and therefore the benefits of specialization may not be fully exploited in a more diversified economy
- Investments into climate change adaptation can increase short to medium-term costs of production

Trade-offs with “deepen global market integration”:

- Firms cannot harness the benefits of specialization, such as a comparative advantage in export markets and participation in GVCs

Trade-offs with “maximize domestic value capture”:

- Broadening the sourcing from more diverse input markets can undermine domestic production
- A focus on export market diversification can sidetrack domestic market orientation initiatives

Trade-offs with “generate productive employment”:

- A movement away from traditional production activities can lower labor-intensity

Trade-offs with “ensure inclusive production”:

- New productive activities could require higher-skill sets which disadvantage poorer segments of the population

5) Considering IP instruments

	Regulation	Incentive / Disincentive	Information	Public goods and ownership
Product diversification	Licensing system Licensing defines how products, intellectual property or technology may be reproduced and used by others. Stringent licensing systems reduce freeloading, but reduce spillover and broad-based access.	Pioneer subsidy A subsidy is granted for the production of new products up to a specified sales volume, in order to encourage innovation and increase the payoff for innovating firms.	Investment fair Holding or participating in investment fairs gives governments an opportunity to interact with potential investors and outline the opportunities and incentives for investments in emerging sectors.	Catalytic procurement The government procures services or goods to create early market support and strengthen demand.
Market diversification	Quota for established export markets Governments set a maximum quota for exports to established markets. The quota aims to encourage firms to look for alternative exporting destinations.	Credit for product standardization Banks provide capital for upgrading and training programs which allow firms to align their products with international standards. Firms will be able to supply markets with import bans for uncertified goods.	Industry fair Industry trade fairs are exhibitions of industry associations or businesses. They serve marketing purposes and are used to coordinate industry development, for example through the coordinated export to new markets.	Preferential access agreements with new supply markets Two or more countries agree on granting preferential access for certain products, subject to low or no tariffs, if the previous importing volume was low.
Domestic competition	Cartel legislation Cartel legislation restricts agreements or collusion between firms which limit competition. Restricting collusion reduces the incumbency advantage of existing firms.	Start-up capital for new firms in sectors with limited competition Governments fund the development and expansion of start-up firms in sectors with limited competition.	Study on public sector role in market competition Public agencies and corporations may distort market competition. Studying and evaluating this effect in specific sectors gives governments a basis to revise and improve competition.	Incubator Incubators provide support to start-ups by aiding them in overcoming initial challenges through business advice, mentoring, provision of physical facilities, or seed capital.
Diversified input sourcing	Product standards Product standards prohibit low quality imports from entering the country, in favor of imports from new destinations with higher quality or certification standards.	Tax incentive for imports from new markets Firms receive tax breaks in exchange for negotiating new import routes for their inputs.	Study on trade constraints By focusing on input sourcing, studies can help highlight how current sourcing strategies limit growth and which steps should be taken to lift trade constraints for new import markets.	Regional energy market In regional energy markets, surplus countries use regional integration as a source of revenue, while countries with intermittent supply benefit from productivity growth.
Climate change resilience	Annual extraction limit Extraction limits determine the extent to which natural resources may be extracted in any given year. A reason may be to prevent resource depletion.	Cash grant for storage system Firms receive funding for the construction of storage facilities. Storage increases inventory capacity, flexibility to changes in demand, and reduces losses.	Data bank on successful adaptation strategies Firms can access success stories and best-practice examples on climate change adaptation, with tips on implementation and funding.	Resilient infrastructure Natural disasters can damage production sites, housing, and public infrastructure. By investing in resilient public infrastructure, governments reduce disaster-related risks.

The instruments in this table are examples chosen to illustrate the differences between instrument types and intervention areas. The examples covered here are not meant to be exhaustive and since they are somehow arbitrarily chosen, they are not more relevant than other instruments which are not covered here. For more examples, see Annex I.

8. Promote self-sufficiency

1) Considering IP connections to national development goals

Developing countries frequently face the challenge that they become heavily dependent on other nations or foreign producers. While this can take many different forms, their increased reliance on imports for strategically relevant consumer goods and inputs required for production is one important dimension. This dependence does not only minimize domestic linkages and value capture but can also increase exposure to external risks significantly. For this reason, developing countries may prioritize promoting self-sufficiency as a core industrial policy objective. A more self-sufficient productive sector can contribute to overall **national independence** and improve **national security** in times of conflict. The domestic production of strategic products can supplement other policy areas and contribute to improved **health** (production of pharmaceuticals and other medical products), **food security** (production of basic food) and **security/defense** (production of military products).

Additionally, many countries have begun to worry about the deterioration of traditional craftsmanship and cultural industries as a result of rising imports and global standardization of products. Industrial policy initiatives that preserve these activities can hence contribute to broader efforts to protect **cultural heritage and identity**.

2) Considering IP intervention areas

A range of concrete intervention areas can be of relevance if raising self-sufficiency is a major objective of industrial policy interventions. Interventions aimed at the following areas will be described in more detail:

- Domestic supply of “critical inputs” into production
- Production of “strategically relevant goods”
- Preservation of “cultural industries” and traditional craftsmanship

Increasing the **domestic supply of critical inputs into production** can be based on different considerations:

- Domestic procurement of production inputs can reduce leakages that result from dependence on imports, making the availability of inputs a prerequisite for reaping some of the domestic benefits of productive activities outlined under objective 3 (“maximize domestic value capture”)
- Enhancing the local availability of critical raw materials, utilities and intermediate inputs required for productive activities can enhance the long-term viability of industry
- Ensuring locally reliable and cost competitive inputs for the productive sector can reduce the dependency on foreign inputs and reduce the economy's vulnerability to global demand and price shocks

The following aims can be mentioned with regard to the **domestic production of strategically relevant goods**:

- Ensuring the domestic production of certain military and defense equipment can be important for national security
- Ensuring that there is an adequate domestic supply of food and other basic consumer goods is critical for poverty alleviation and to ensure that the population's basic needs will always be met

- Promoting the domestic production of pharmaceuticals and medical equipment will contribute to public health and ensure affordable medical care

The preservation of **traditional craftsmanship and building cultural industries** can follow various reasons:

- Encouraging the development and production of culturally embedded goods or production processes can be important for national identity and allow for the development of unique, niche products which are not subject to global competition
- Traditional handicrafts, consumer products can provide the foundation for industrial linkages to the tourism sector
- Encouraging traditional artisanal activities can contribute to the preservation of cultural heritage

3) Considering IP target groups

At the core of self-sufficiency policies are **domestic producers**. They could receive support in establishing and expanding their operations, in particular in sectors which are considered strategically important. In a number of countries, **state-owned enterprises** play a central role in these sectors, and so targeting them to increase and improve their productive activities can also be an aim of policymakers.

If countries follow food security strategies, the **agricultural and food processing sector** in particular is at the center of policy packages, either to improve productivity, boost domestic production or increase demand for domestically produced goods. Another potentially relevant target group in this area can be non-domestic providers of strategic goods, such as **aid agencies** and **food importers**. Lastly, governments often provide support to firms and workers in industries which are deemed culturally significant, such as participants in the **creative or cultural industries**.

4) Considering IP synergies and trade-offs

Potential synergies with other objectives

Promoting self-sufficiency through industrial policy can sometimes allow synergies with other IP objectives:

Synergies with “increase productive activities”:

- Ensuring the domestic availability of critical inputs into production can boost productive activities through cost reduction effects

Synergies with “deepen global market integration”:

- Nurturing the supply of strategic products can ensure the longer-term competitiveness of domestic products in global markets

Synergies with “maximize domestic benefits”:

- Investing in the domestic production of strategic goods and services can boost domestic linkages and value added

Synergies with “generate productive employment”:

- The development of new domestic industries can foster new productive employment opportunities
- Ensuring the supply of food and medicine to the population ensures their ability to engage in productive employment opportunities

Synergies with “ensure inclusive production”:

- Promoting the domestic availability of food will benefit rural populations engaged in agriculture
- Encouraging the development of creative industries based on traditional production processes or products can help to leverage on skill sets of rural and poorer populations

Synergies with “build economic resilience”:

- Ensuring the domestic supply of inputs for production potentially minimizes exposure to global demand and price shocks

Potential trade-offs with other objectives

In some cases, there could also be trade-offs between improved self-sufficiency and other IP objectives:

Trade-offs with “increase productive activities”:

- Protecting domestic producers from international competition can prevent productivity enhancements

Trade-offs with “deepen global market integration”:

- Domestically produced inputs or goods may be more expensive than imports
- Domestically produced goods may be of lesser-quality than their imported equivalents
- Reducing the level of imports into the economy, by definition reduces the level of global market integration

5) Considering IP instruments

	Regulation	Incentive / Disincentive	Information	Public goods and services
Critical inputs	Import ban on target goods Import bans aim to prevent the spread of diseases or pollution/ damage to the environment. Products are occasionally placed under import bans if they originate from regions where epidemics or animal diseases are prevalent.	Tax exemption for new mining investments Tax exemptions to mining firms reduce exploration and development costs. They may aim to attract investments to the sector to generate growth and reduce imports of domestically available raw materials.	Projected demand studies Establishing the future demand of industries serves as a basis for long-term planning, for example in education or infrastructure, to ensure that there are no bottlenecks. It can also stimulate investment by clarifying future demand.	State-owned enterprise Governments act as producers when they use state-owned enterprises to promote development goals, for example as players in targeted growth sectors. Public firms influence market structure, employment levels and product supply.
Strategic goods	Domestic sales requirement A percentage of output produced must be sold domestically. Governments may impose domestic sales requirements to ensure provision of a certain good on the domestic market.	Road tax exemption for producers of consumer goods Governments waive road taxes for producers of consumer goods, to make domestic production more competitive. A variation of road tax is fuel tax, which governments may use to distribute costs more fairly among road users.	Entrepreneurship development training Domestic production may be constrained by a lack of entrepreneurial experience. Training for entrepreneurs focuses on finance, business development, expansion and growth to raise the competitiveness and productivity of domestic producers.	Public sector contract with domestic preference Public sector contracts for critical consumption goods, for example pharmaceuticals, are preferentially awarded to domestic contenders.
Cultural industries	Import ban in traditional sectors To protect domestic productive capacities, import bans prohibit the import of foreign goods in traditional sectors. Protection may aim to preserve skills, jobs, or value chains which are deemed critical to cultural identity.	Subsidized business development training Subsidies for business development services aim to build entrepreneurial capacities in traditional sectors. Business development services include the transfer of information, the identification of challenges and the development of solutions as well as linkage development.	Locally produced-label Labels help consumers identify the attributes of the products they purchase. Where consumers consider domestic production in their purchasing decisions, labels can help boost demand for locally produced goods.	Trader outlet Governments provide facilities for traders and producers in traditional sectors to display their wares and connect to consumers.

The instruments in this table are examples chosen to illustrate the differences between instrument types and intervention areas. The examples covered here are not meant to be exhaustive and since they are somehow arbitrarily chosen, they are not more relevant than other instruments which are not covered here. For more examples, see Annex I.

9. Improve resource-efficiency and management

1) Considering IP connections to national development goals

Developing countries commonly rely on highly resource intensive production processes, which can lead to a rapid depletion of resources, environmental degradation and high production costs. Countries have therefore begun to prioritize improved resource efficiency and management within their industrial policy packages. Economizing on resource use can be a significant driver of productivity and economic growth. In particular resource-intensive sectors can reap significant competitive benefits from resource-efficiency improvements that can provide the foundation for more **stable economic growth**.

In many countries the access to particular finite resources is limited so they may strive to improve resource efficiency to ensure longer-term access to these vital inputs. Related resource management improvements can hence extend the time-horizon and improve **economic sustainability**. Productive activities commonly account for a significant amount of the consumption of certain resources. Hence, the efficient use of energy, water and materials by industry can be an important factor for **environmental conservation** and **sustainability**.

2) Considering IP intervention areas

Industrial policy packages of developing countries could prioritize a variety of concrete intervention areas that relate to this objective, which will subsequently be described in more detail:

- “Resource-efficient technology”
- “Sustainable resource management”

For a variety of reasons it could be considered a priority that **firms adopt more resource efficient technology and/or production processes**:

- Reducing resource use can significantly decrease unit costs of production in line with the discussion on firm productivity under objective 1 (“increase productive activities”)
- Resource intensity can be reduced by replacing outdated equipment and machinery with alternative solutions that reduce the amount of resources required while sustaining the same level of output
- The introduction of new production processes and operating guidelines can enhance efficiency and contribute to the reduction of resources used in production

Enhancing **sustainable resource management** can be relevant for various aims:

- Reducing the consumption of scarce resources by productive activities can make economic development more in line with the eco-system
- Replacing resource-intensive sectors can contribute to the long-term viability of economic activity
- Replacing sectors that require scarce resources can prevent the depletion of resources that are required for consumers (e.g. drinking water vs. industrial water use)
- Encouraging the reuse and recycling of resources can extend the availability of resources in the future and reduce costs
- The introduction of alternative resources as production inputs to replace the most scarce resources can extend the time horizon for the viability of productive activities

3) Considering IP target groups

Resource-efficiency objectives can be driven by a multitude of rationales and choosing target groups depends on which resources are to be conserved and which sectors are particularly resource-intensive. For example, depletion of oil or mineral reserves can be a risk to sustainable economic growth. In these cases, addressing the challenges of these **resource-based sectors**, for example by introducing more resource-efficient technology, becomes relevant. Similarly, industries with **resource-intensive production processes** are also a common target in addressing conservation concerns, such as introducing water-saving technology as part of a strategy to prevent erosion and droughts.

In cases where resource-efficient technology is not sufficiently available in the domestic market, policies could designate **foreign firms and investors** as important contributors to an effective resource-efficiency initiative. Alternatively, they may target **domestic producers of resource-efficient technologies** and domestic **recycling service providers**.

4) Considering IP synergies and trade-offs

Potential synergies with other objectives

The objective of improved resource-efficiency can potentially exhibit significant synergies with other IP objectives as illustrated in the following examples.

Synergies with “increase productive activities”:

- Firms competitiveness and production levels can be increased by reducing production costs through enhanced resource-efficiency

Synergies with “deepen global market integration”:

- A reduction in input costs through resource efficiency improvements can help firms to compete in global markets
- Firms compliance with resource-efficiency standards can provide them with a competitive edge in global markets

Synergies with “generate productive employment”:

- Resource-efficiency can help firms to reduce costs and boost productivity without reducing levels of employment
- The production of “green” goods and services and waste management activities generates employment opportunities

Synergies with “improve quality of employment”:

- Firms who improve their productivity through resource-efficiency can afford to pay higher wages and offer better working conditions whilst still reducing overall production costs

Synergies with “build economic resilience”:

- By reducing the required level of materials used in production through improved resource-efficiency, the productive sector can reduce its vulnerability to commodity price shocks
- If an economy diversifies by moving into less resource-intensive activities, the overall resilience of production is improved

Synergies with “promote self-sufficiency”:

- Reducing the resource intensity of production (especially in energy or other scarce or imported resources) can improve economic self-sufficiency

Synergies with “reduce pollution”:

- Negative environmental impacts deriving from the productive sector can be reduced by minimizing resource consumption, waste and emissions through enhanced resource-efficiency

Potential trade-offs with other objectives

Apart from these synergies specific country contexts could also lead to trade-offs between this objective and other IP priorities of countries as summarized below.

Trade-offs with “increase productive activities”:

- Investments in more resource-efficient technology can be very capital-intensive and hence reduce the profitability of firms in the short-term
- The introduction of inappropriate resource-efficient technology (e.g. due to lack of technical knowledge) can potentially undermine productivity benefits

Trade-offs with “deepen global market integration”:

- Many developing countries are currently competing in global markets on the basis of abundant resource availability and a movement into less resource-intensive activities can undermine their exports in the short to medium-term

Trade-offs with “generate productive employment”:

- The introduction of resource-efficient technology can come with inherent labor-saving designs which tend to reduce employment-intensity

Trade-offs with “ensure inclusive production”:

- Many resource-efficient technologies require higher skills which can exclude disadvantaged populations from productive employment opportunities

Trade-offs with “reduce pollution”:

- An improvement in resource-efficiency can lead to a “rebound effect” whereby lower production costs lead firms to buy *more* resources to increase output thereby increasing resource depletion and pollution

5) Considering IP instruments

	Regulation	Incentive / Disincentive	Information	Public goods and services
Resource-efficient technology	<p>Credit requirement for green technology</p> <p>The government places a minimum lending quota on commercial banks. Banks are required to provide a percentage of their lending to green technology projects or technology upgrading in firms.</p>	<p>Tax on material inputs</p> <p>A surcharge is levied on specified production inputs, for example toxic substances or scarce resources. Material input taxes aim to encourage upgrading of technology to more resource-efficient production.</p>	<p>Ecological rucksack label</p> <p>Ecological rucksack labels give consumers information on the life cycle of a product. Labels aim to raise public awareness, facilitate resource-use monitoring, and encourage the use of resource-efficient technology.</p>	<p>QI institute</p> <p>Institutes for Quality Infrastructure offer a range of services from certification, quality control, inspections, to topic-specific tests of firm equipment, procedures or products.</p>
Sustainable resource management	<p>Production ban in resource-intensive sectors</p> <p>Production bans prohibit the expansion of old production sites and the construction of new ones. Production bans are often part of a broader strategy to phase out or substitute away from resource-intensive sectors.</p>	<p>Cash grant for development costs in substitute sectors</p> <p>When phasing out production or funding for resource-intensive sectors, governments fund substitute sectors to replace lost revenue. Funding aims to contribute to capital-intensive development of direct subsidies, for example renewable energy for fossil fuels.</p>	<p>Life cycle analysis study</p> <p>Life cycle analysis studies establish the environmental impact of a product during its entire life cycle, from resource extraction to disposal. Studies help identify resource-intensive sectors and the extent of negative externalities.</p>	<p>Public-private partnership</p> <p>Public agencies enter a business relationship with a private sector entity to realize a project in a new, less resource-intensive sector.</p>

The instruments in this table are examples chosen to illustrate the differences between instrument types and intervention areas. The examples covered here are not meant to be exhaustive and since they are somehow arbitrarily chosen, they are not more relevant than other instruments which are not covered here. For more examples, see Annex I.

10. Reduce pollution

1) Considering IP connections to national development goals

An expansion of productive activities can have significant negative effects on the environment both globally and locally. A reduction of pollution from production is therefore an increasingly important consideration for developing countries as they craft their industrial policy packages. The interface of industrial development and environmental sustainability is often discussed under such headings as green industry, sustainable production or clean technology. If industrial policy takes these concepts on board, it can contribute to **environmental protection** efforts by minimizing pollution. A significant reduction of global pollution is also the only strategy to ensure **sustainable economic growth** in the world in general and in developing countries in particular.

In particular the reduction of GHG emissions to slow-down climate change is an issue of significant international concern. Developing countries that are willing to seriously engage in this journey can benefit from improved **global cooperation**, potentially including larger aid inflows and improved international reputation. A reduction in local pollution from industrial activity (e.g. water and soil) can also significantly improve the **health** and safety of societies.

2) Considering IP intervention areas

Industrial policy packages that prioritize pollution reduction could consider a number of intervention areas, which will subsequently be described in more detail:

- “Cleaner production” with reduced levels of pollutants originating from productive activities
- The production and consumption of “green goods and services”
- Improvements in “waste management”

The **reduction of pollutants originating from production** could include a number of considerations:

- Industrial Policy can play an important role in contributing to national environmental and health objectives by reducing the level of pollution coming from industry
- Governments can focus on reducing GHG emissions of industry as a way of reducing the country’s contributions to climate change
- A reduction in the level of water pollution emanating from industry can be an important strategy for governments to reduce negative local health effects and ensure stable water supplies for their population and economy
- Eliminating the excessive use and contamination of land by industry is important to ensure food security, health and long-term availability of resources required for production
- Access to aid and other international development services is increasingly contingent on compliance with environmental standards in production

Industrial policies could also aim at the **production and consumption of “green goods and services”** for a variety of reasons:

- Countries can contribute to the global efforts of environmental protection and climate change mitigation by engaging in the production of “green” products which minimize pollution

- Governments can play an important role in encouraging the consumption of “green” goods and services by final consumers and industry as a way of minimizing negative environmental effects both locally and globally
- Governments can utilize industrial policy to ensure the long-term viability of consumption and production in their country which could be undermined in the future if current consumer behavior and production practices persist

Improve **waste management and treatment** can be another area of intervention that relates to a number of points:

- The systematic management of the collection, transport, treatment and disposal of industrial waste can reduce pollution significantly
- Modern waste management practices can provide improved air and water quality and help in the reduction of GHG emissions
- Waste management can be the foundation for the emergence of industrial symbiosis networks and a starting point for a circular economy

3) Considering IP target groups

Both dischargers of pollutants and producers of green products can play a central role in addressing industry-related pollution. Pollution levels differ between sectors, and in an economy with a reliance on **highly-pollutant sectors**, targeting “hot-spots” in these sectors becomes relevant. A significant change in pollution and waste levels may also be achieved by influencing **large firms** to improve their productive processes. Where administrative capacities are limited, targeting a few large firms can be a more effective use of these resources than engagement with a large number of small and medium firms. Another common source of pollution are **resource-intensive sectors**. Energy generation or forestry industries, for example, are often reliant on access to rivers and lakes, which may lead to the degeneration of water quality in surrounding bodies.

Green start-ups and green energy producers are relevant factors in substituting highly-pollutant technologies and sectors with greener ones. Like **foreign suppliers of technology**, they influence the availability of clean technology in the domestic market and the development of innovative productive strategies with low pollution. Lastly, demand for green goods and services is partially determined by **consumer** behavior. Instruments like eco-labels and information campaigns aim to influence purchase decisions to include environmental concerns.

4) Considering IP synergies and trade-offs

Potential synergies with other objectives

The reduction of pollution can sometimes have significant positive effects on other IP objectives as illustrated in the following examples of synergies.

Synergies with “increase productive activities”:

- By protecting critical natural resources (water, land, etc.), the long-term viability of production in sectors that are dependent on their availability can be safeguarded
- Highly dynamic markets for green products can be exploited on the basis of the production of “green” goods and services

Synergies with “deepen global market integration”:

- Green production and environmental standards based labeling can help boost exports and integration into higher-income markets

Synergies with “maximize domestic value capture”:

- Reducing local pollution by industry ensures that the surrounding populations buying power is maintained
- Recycling and industrial symbiosis processes can enhance linkages between firms and sectors

Synergies with “generate productive employment”:

- Productive employment opportunities can be generated in the production of “green” goods and services, waste management activities and other green services that arise from pollution reduction efforts

Synergies with “improve quality of employment”:

- Reducing industrial pollution can improve workplace conditions and the surrounding communities’ health and safety

Synergies with “ensure inclusive production”:

- Pollution reduction can reduce inequality and social cohesion as pollution often disproportionately harms vulnerable groups and can undermine social acceptance of industrialization

Synergies with “build economic resilience”:

- Reducing pollution can contribute to climate change adaptation, thereby reducing the countries exposure to negative effects of climate change
- Moving into “green” products can contribute to diversification efforts

Synergies with “promote self-sufficiency”:

- Reducing industrial pollution can contribute to the conservation of resources (soil, water, etc.) which ensures their longer-term availability

Synergies with “improve resource-efficiency”:

- The application of green technology can help to boost resource-efficiency
- A reduction in pollution of natural resources can contribute to their long-term availability

Potential trade-offs with other objectives

Trade-offs between pollution reduction and other IP objectives are frequently discussed in developing countries. A few selected illustrative examples follow.

Trade-offs with “increase productive activities”:

- Efforts for reducing the pollution caused by productive activities can increase production costs significantly which can reduce the cost competitiveness of firms/products in the short or long-term

Trade-offs with “deepen global market integration”:

- More stringent environmental regulations can reduce the willingness of foreign investors to locate certain activities in the country

Trade-offs with “maximize domestic benefits”:

- Developing countries are commonly dependent on foreign technology solutions to reduce pollution which can discourage domestic procurement of capital goods or intermediate inputs

Trade-offs with “generate productive employment”:

- Modern production technologies or processes that comply with environmental standards can reduce employment levels due to automation

Trade-offs with “ensure inclusive production”:

- Stringent environmental production standards are likely to disadvantage informal, small firms and lower-skilled workers

Trade-offs with “promote self-sufficiency”:

- The domestic production of strategic products or inputs for production could cause more local pollution than buying those products from abroad

5) Considering IP instruments

	Regulation	Incentive / Disincentive	Information	Public goods and services
Clean production	Environmental liability legislation Environmental liability places the financial responsibility of pollution on the polluter, in order to compensate third parties and encourage green innovation by making. Damage has to be quantifiable to enforce liability payments.	Emission tax An emission tax relates output to price, placing the cost of negative externalities on polluters. Taxes raise the price of production processes with high emission levels, introducing a cost advantage for clean production and technology.	Industry club Firms form industry clubs to test pollution-decreasing pilot projects. Information on successful projects and their benefits is disseminated to other members, with the aim of identifying profitable ways of upgrading production technology.	Cleaner production centers Cleaner production centers offer technical advice to firms on the acquisition, use and benefit of green production, as well as the development of new technologies and technology applications.
Green goods and services	Standard for toxic substances Standards regulate permissible product attributes, such as residual chemical levels or energy usage in electronics.	Cash grant for green energy producers Governments partially cover up-front development costs of green energy projects to encourage investment.	Expert network on green solutions Firms have access to international or national expert networks to work out green solutions to production issues, for example the substitution of toxic substances.	Green procurement Public sector contracts are awarded based on environmental performance evaluations, in order to stimulate demand for green goods and services.
Waste management	Disposal restrictions Waste restrictions define which substances or products cannot be disposed of at regular disposal sites. Disposal restrictions aim to prevent pollution and damage to the environment, and may reduce use of harmful substances by increasing the cost of industrial waste disposal.	Fee-based disposal service Governments charge waste collection fees to cover operational and disposal costs. By setting a price for disposal volume, firms with large volumes of industrial waste become less competitive in comparison with firms with less waste disposal or higher recycling rates.	Data bank for recycling service providers Firms have access to information on recycling providers in their vicinity, facilitating price comparisons and the establishment of business connections.	Waste management infrastructure The provision of quality waste management infrastructure and services reduces negative effects of pollution on nearby communities. In industrial clusters, industry- or substance-specific waste disposal facilities like incinerators may be a central part of industrial waste management.

The instruments in this table are examples chosen to illustrate the differences between instrument types and intervention areas. The examples covered here are not meant to be

exhaustive and since they are somehow arbitrarily chosen, they are not more relevant than other instruments which are not covered here. For more examples, see Annex I.