

Pinky Rani
Assistant Professor (Guest Faculty)
Department of Economics
Maharaja College
Veer Kunwar Singh University, Ara
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Topic- Derived demand

Introduction

Derived demand occurs when the demand for a good or service arises not because it is directly desired, but because it is needed to produce another good or service. Essentially, the demand for an input (e.g., labor, raw materials, or capital equipment) is derived from the demand for the final product or service that uses it.

Key Features of Derived Demand:

- **Dependency:** The demand for the input depends on the demand for the final product.
- **Interconnected Markets:** Changes in the market for the final product directly affect the market for the input.
- **Economic Ripple Effect:** A shift in final demand can have cascading effects throughout the supply chain.

Derived Demand for Labor

The derived demand for labor refers to the demand for workers based on the need for the goods and services they help to produce. Labor is not desired for its own sake; rather, it is valued because it contributes to the production process, generating goods or services that are ultimately sold in the marketplace.

Derived labor demand varies by industry and depends on the nature of the production process and the substitutability of labor with other inputs, like machines. The cost of labor (wages) influences the extent to which firms hire workers. High wages may lead firms to substitute labor with automation or other inputs.

The marginal product of labour(MPL) measures the additional output generated by employing one more unit of labor, holding other inputs constant. The MPL plays a crucial role in determining the derived demand for labor because employers base their hiring decisions on the value that additional workers contribute to production.

Factors Affecting Derived Labor Demand

Automation can reduce the derived demand for labor by increasing the productivity of machines relative to humans.

- Higher prices for final products lead to higher labor demand.
- If labor becomes more expensive relative to capital, firms might substitute labor with capital, or outsource production to another firm.
- When capital and labor are complements (e.g., skilled workers operating machinery), increased capital use can increase labor demand.

Example: Labor in the Automobile Industry

The demand for automotive workers depends on the demand for cars. If consumers buy more electric cars, manufacturers will hire more workers for assembly, battery production, and design. Conversely, if car demand declines (e.g., during a recession), layoffs in the automobile industry might occur because the derived demand for labor decreases.

More Examples of Derived Demand

Steel for Construction: Steel demand is derived from the demand for buildings, bridges, and infrastructure projects. A government-funded infrastructure program would increase the demand for steel, as it's a critical input for constructing roads

and bridges. Conversely, a slowdown in the housing market would reduce the need for steel.

Semiconductors in Electronics: Semiconductors are a critical input for products like smartphones, laptops, and vehicles. If demand for smartphones surges due to a new product release, companies like TSMC and Intel experience higher demand for their chips. If consumer spending on electronics drops, semiconductor demand contracts.

Shipping and Logistics: The demand for transportation and logistics services is derived from the demand for goods being shipped. E-commerce growth (e.g., Amazon) boosts the demand for trucking, warehousing, and shipping. A decline in manufacturing exports leads to reduced demand for international shipping services.

Renewable Energy Components: The demand for wind turbines, solar panels, and batteries is derived from the demand for renewable energy. Policies promoting clean energy increase the need for solar panel components like silicon wafers and lithium for batteries. A reduction in renewable energy subsidies might reduce the demand for these inputs.

Teachers in Education: The demand for teachers is derived from the demand for education services. A growing population and increased school enrollment drive demand for more teachers. Conversely, lower birth rates in some countries ultimately reduce school enrollments, lowering the need for teachers.

Software Developers: The demand for software developers is derived from the demand for apps, websites, and digital platforms. The rise of social media platforms increases the need for front-end and back-end developers. A slowdown in the tech industry could reduce hiring for these roles.

How Does Derived Demand Work?

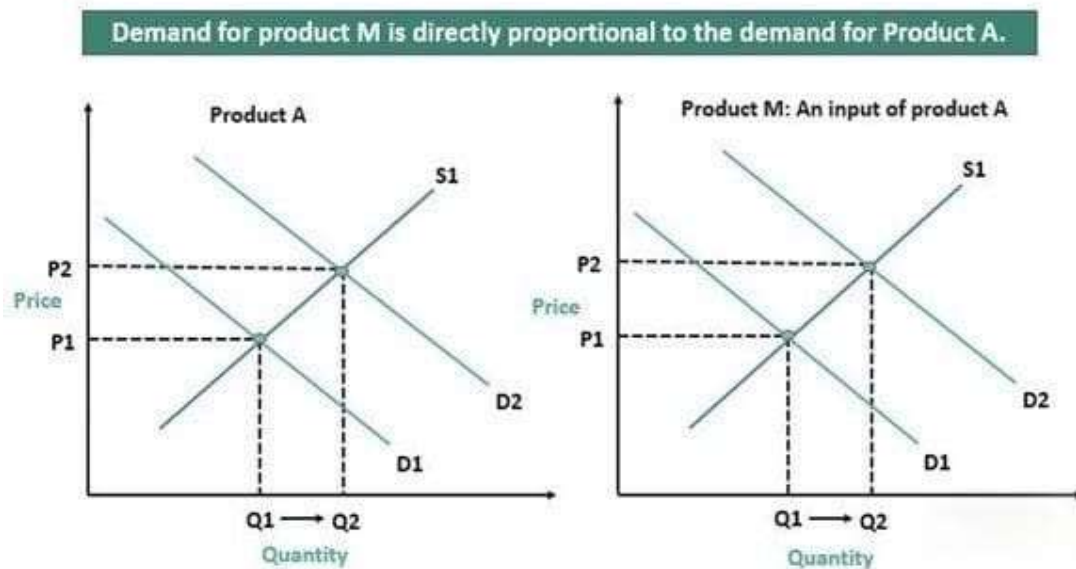
Derived demand is natural in most markets and economies. Such demand usually does not come from consumers but other products, services, or the makers of the consumer products and services. A chain of induced demand will originate as the raw materials get converted into the final product. It is generally associated with resources that take the form of raw materials, semi-finished products, labor, and energy. It is evident in the financial market where a derivative price relies on the underlying asset's value.

Academics often segregate it into direct or indirect categories.

- Directly derived demand: Indicates the demand for primary raw materials required to produce the final product in demand. For instance, the demand for sanitizers induces raw materials like rubbing alcohol or isopropyl alcohol.
- Indirectly derived demand: This one goes beyond just the raw materials. Suppose there is an increase in demand for a product. In that case, it may indirectly affect complementary factors, for instance, the need for more inventory space to store the additional output or increased energy requirement from the production facility.

Derived Demand Curve

Derived Demand



The phenomenon can also be illustrated and better understood through the derived demand curve. Alfred Marshall developed the concept in his book *Principles of Economics*. The graph explains how a shift in the demand curve towards the right due to increased demand creates an additional demand for the underlying natural resources needed to make the final product. The first part depicts the increase in demand for product A, and the other part shows the corresponding shift in the demand curve of its input, product M.

Conclusion

Derived demand is an important concept in economics, linking the demand for inputs such as labor, materials, and services to the demand for final goods and services. Understanding derived demand provides valuable insights into how markets operate and helps businesses adapt their strategies to meet the evolving needs of their industries.

For businesses, especially in B2B contexts, recognizing and exploiting the interconnected nature of demand can offer a competitive advantage. Derived demand marketing emphasizes the importance of aligning products or services with consumer preferences and market trends in any given industry.