## What is Meant By the Term Direct?

Direct Impacts are those jobs, wages or economic output, solely attributable to the industry defined for the study, in this case the US metals industry producers, fabricators and processors, and wholesalers. We like to say that they are the jobs that one can count. If I go to a warehouse or processing facility and count the number of people working there, that would be the direct employment (although there may be many more people working than there are jobs since many people work only part time). JDA uses direct employment at the facilities, offices, stores and sites that are defined to be part of the industry to calculate all of the other effects presented in the study.

## What is Meant By the Term Indirect?

Indirect is the term used in economic impact studies to define those effects that result from firms in the defined (or Direct) industry purchasing goods and services from other industries. JDA defines these as Supplier Impacts in its models. For example, when a metal distribution center pays rent on its warehouse to their landlord, or when they hire a trucking company to deliver products they are creating indirect effects in the real estate sector or trucking sector of the economy.

In the case of retailers, wholesalers, truckers and others that handle products through a supply chain, the value of the goods moving through a warehouse or a store are not counted as indirect impacts; only those goods and services used to provide the wholesaling, transportation or retail services are included. So, if a wholesaler buys metal sheet or wire from a rolling or drawing facility to in turn sell the product to a construction company or consumer, that purchase is not included as a supplier effect.

## What is Meant By the Term Induced and Ripple Effect?

Induced or ripple effects are the response by the economy that occur through re-spending of income received by payments made to employees and business owners measured in the direct and supplier parts of the economy. When people work in a metal service center or for firms that supply goods and services to the industry, they receive wages and other payments. This money is recirculated through their household spending *inducing* further local economic activity. Economists call these induced impacts the *multiplier effect* of an activity or industry.

Examples of induced effects are the jobs created in a diner located outside of a plant gate where people purchase sandwiches for lunch, or at the gas station where they purchase fuel for their commute, or even in neighborhoods, where workers purchase houses, go to restaurants or visit the movie theater.

## What Specifically Do You Mean When You Say a Job?

Jobs are a measure of the annual average of monthly jobs in each industry as defined by the Quarterly Census of Employment and Wages put out by the BLS. Jobs in our models are derived independently and do not match jobs reported by government entities in that we often define industries differently, and because we include more firms and facilities than are surveyed by the government. Jobs are measured in full-time equivalent units.

## What is Meant by The Term Economic Output or Economic Impact?

JDA uses output in its models as a general measurement of economic impact because we believe that it is the broadest and most comparative measure. In general, output represents the value of industry production for the model year calculated in terms of producer prices. Output differs depending on the industry being measured. In the case of retail and wholesale industries, like metal distributing, Output does not represent sales, but rather is similar to the accounting measure of gross margin. The value of steel sheet purchased from say, US Steel that then flows through the wholesaling process is not included as part of output, even if they are transformed in some way. One way to look at it is the Output is total sales revenue minus its cost of goods sold. This is similar to the wholesale or retail markup on a product.