

**TESTIMONY OF SIMON ORMEROD,
CEO of AJAX ROLLED RING & MACHINE
PRESIDENT, FORGING INDUSTRY ASSOCIATION**

**BEFORE THE
U.S. HOUSE of REPRESENTATIVES COMMITTEE ON SMALL BUSINESS
SUBCOMMITTEE ON AGRICULTURE, ENERGY & TRADE**

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Chairman Tipton, Ranking Member Murphy, and Members of the Subcommittee, thank you for the opportunity to testify before you today on the economic benefits of increased domestic supplies of natural gas and oil on manufacturing in general, and the forging industry in particular.

My name is Simon Ormerod, and I am the CEO of Ajax Rolled Ring & Machine in York, South Carolina. I am also the current President of the Forging Industry Association (FIA) and am honored to testify on FIA's behalf. Headquartered in Cleveland, Ohio, FIA is the primary trade association representing the bulk of forging capacity in North America.

Forging is the oldest known metalworking process, where metal is heated and then formed under high pressure into a wide variety of high-strength parts used in anything that rolls, floats or flies. Virtually any metal can be forged, from aluminum to zirconium. The process is usually performed by preheating the metal to a desired temperature before it is worked.

Ajax Rolled Ring & Machine was established in 1980 and has approximately 100 employees. We are a custom manufacturer of seamless rolled rings that are used in a variety of critical industrial components including bearings, gears, flanges, and valve seat rings for end-use markets such as power-generation including steam and gas-turbine, wind energy, mining and construction equipment, oil & gas, petrochemical, defense, rail transportation, and a wide variety of general industrial applications. We make rolled rings that range from 7.5 to 100 inches in diameter and weighing from 15 to 3,500 pounds, using carbon, alloy, and stainless grades of steel as well as certain non-ferrous grades such as copper.

The modern forging process is both capital-intensive and energy-intensive. Adding a new production line for our company would cost in excess of \$15 million, and we have significant expenditure on our equipment every year due to the intense wear on the equipment. We also are a major user of natural gas and electricity in our region. Given those requirements, it may

surprise you to know that most forging plants are small and medium-sized businesses. Specifically, 95 of FIA's approximately 200 members are small businesses. Focusing just on our forging producer members, 50 out of 110 are small businesses. Approximately half of our supplier members are small businesses. 55% of FIA members have sales below \$30 million. Only 12% have sales over \$120 million. These plants provide over 35,000 well-paid jobs and benefits. In 2012, the average hourly rate for a forge employee was \$19.28 with an additional \$9.48 of benefits paid by the employer.

In 2012, custom forgings accounted for nearly \$10.6 billion of sales in North America. An additional \$3-\$5 billion in catalog and captive sales would bring the industry total for 2012 to the \$13.6 – 15.6 billion range. Comprised of less than 500 forging operations in 38 states, Canada and Mexico, the largest U.S. presence of forging operations is in Ohio (77), Pennsylvania (63), Illinois (54), Michigan (54), California (38), Texas (41), New York (16), Indiana (18), Wisconsin (17), Kentucky (13), Massachusetts (10) and South Carolina (9).

In spite of the fact that the industry is populated by mostly small and medium-sized businesses, the forging industry is critical to the U.S. economy. We are, in fact, one of the corner stones of U.S. manufacturing.

Forged parts are strong and reliable and therefore, vital in performance-critical applications. Forgings are rarely seen or identified by consumers, because they are normally component parts inside assemblies. For example, forgings are necessary components in the following applications:

- **Automotive** – A single car or truck may contain 250 forgings, predominantly in the engine and transmission; 40% of all truck axle assemblies are comprised of forged components;
- **Aerospace** – structural, engine and landing gear parts of commercial and military aircraft are forged;
- **Defense** – a heavy tank contains over 550 separate forgings; the 120mm gun tube on the M1A2 battle tank is forged; the US Navy's Aegis Class guided missile destroyers are steered by 2 forged rudder stocks approximately 20 feet in length and weighing 35,000 pounds each; Cruise missile warheads and all penetrator bomb cases are forged; a standard artillery shell usually contains at least 2 forged components;

- **Power Generation** – pressure vessels, generator rotors, pump shafts, valve manifolds, valve bodies, turbine blades and shafts, pipes and fittings are forged for nuclear (commercial and naval), land and marine power generation equipment;
- **Wind Energy** – about 20 metric tons of forgings are used in a typical large wind turbine;
- **Oil and Gas Exploration** – hundreds of forgings are used in both an oil rig tension leg platform and a land-based drilling rig; in addition forgings are used in the transportation of oil and gas under high pressure;
- **Mining** – forgings up to 70,000 pounds are used in surface and underground mining equipment;
- **Rail** – The Association of American Railroads requires all axles to be forged for locomotives. The traction gears and the engine crankshaft and camshaft in locomotives are also all forged;
- **Medical** – Quality surgical tools and joint replacements require strong, lightweight forgings;
- **Tools** - Hammers and wrenches are forged; and
- **Sports** – Forged golf clubs allow more efficient transfer of energy from club to ball than traditional clubs – that equals more distance without swinging harder.

Forging is Both Energy-Intensive and Critical to the Energy Production Sector

Because we produce parts for the energy supply chain and are heavily dependent on adequate supplies of competitively priced natural gas and electricity, forgers like Ajax are in a unique position to comment on the overall benefits to the economy created by the increased supplies of domestic natural gas and oil we are now enjoying in the U.S. Increased exploration for oil and gas is not only beneficial to our cost structure, through lower priced energy, but also leads to increased demand for our forgings.

Direct Suppliers to the Oil & Gas Industry

As noted above, hundreds of forgings are used in both oil rig tension leg platforms, land-based drilling rigs and pipelines. My company makes gears, bearings and flanges that are sold to valve, pipe and flange manufacturers in the oil & gas field. Our products are also sold to the manufacturers of drills, pumps and many other related equipment applications. Other forgers make critical parts such as the forged drill bits, without which the hydraulic fracturing ('fracking')

activity in our country would not be possible. This industry is responsible for much of the increased supply of domestic natural gas we are seeing today.

Demand for forged rings that we supply for valves used in oil and gas pipelines has risen by 20-30 percent in the past 2 years. We have added at least 10 new positions in this timeframe for both forging and precision machining activities. The exacting requirements of these valves, many of which are for sub-sea applications, are such that only stainless steel forgings of the very highest standards and machined to tolerances of thousandths of an inch are acceptable.

As many have noted, opportunities such as shale gas extraction and the potential Keystone Pipeline extension in the U.S. occur once in a generation. Shale gas extraction is already providing significant benefits to our economy, and the Keystone Pipeline extension promises to create a significant number of jobs during construction as well as provide cost-effective supplies of crude oil from a stable and friendly source. The FIA strongly believes that safe, responsible development of these energy sources will continue to fuel a U.S. manufacturing renaissance, and U.S. policies should not erect artificial regulatory barriers to their success.

Abundant Domestic Supplies of a Key Input to the Forging Process

In the case of natural gas, we benefit directly from the increased exploration, extraction and transportation of gas because we supply to the industry itself. Also, as natural gas is a key input and a key cost driver in our manufacturing process, we also benefit from stable pricing of that energy source.

Most forging work is done at temperatures up to 2300°F, with subsequent heat treating done at up to 1900°F, using natural gas or electric furnaces. Therefore, forgers require adequate, stable, affordable supplies of natural gas and electricity to make the critical parts we make for nearly every industry sector imaginable.

In 2008, natural gas prices were extremely volatile and supply was inadequate. Prices ranged from \$5.8 per MBTU to \$12.7 per MBTU. When natural gas is both a key input and a key cost driver, that market volatility makes it extremely difficult to plan and to remain globally competitive. In addition, the competitive nature of our industry means that such cost increases can rarely be passed on to the customer.

Forgers' other key raw material is metal, and for most forgers this means steel. The metal producers also require natural gas as a key input and a low and stable gas price helps them to keep metal prices lower for their customers. While the majority of the metal producers might not qualify as small businesses, their customers often are. These customers could be forging companies, such as Ajax, or else distributors, many of whom are also small businesses.

Today, with the abundant supplies of natural gas being extracted and sold in the U.S., we have confidence in the stability and competitive price of the market. Since the beginning of 2011, the price range has been between \$1.95 MBTU and \$4.50 MBTU. That means I can have confidence in my ability to be competitive, because I can predict the cost of one of my key inputs. I can also feel more confident in making investment decisions, which involve a longer time horizon, because I have more confidence that energy costs and supplies will be more stable. A further factor is our competitive position versus overseas forging companies. The fact that we have stable and low priced energy helps us to compete with these companies both in the U.S. and in overseas markets.

Conclusion

It is easy to see the immediate effect on job creation in the towns and states where shale gas extraction is actively being conducted. It is a logical next step to consider the increased jobs that suppliers to the oil & gas industry, like Ajax, have been enjoying as a result of this increased gas exploration and extraction activity. Your subcommittee has already heard from small businesses that will be directly impacted by the building of the Keystone Pipeline extension. For those of us that supply directly to the oil and gas industry, demand for forgings has slowed somewhat now that the extraction is actually taking place. Approval of the Keystone Pipeline extension would obviously generate significant new demand.

However, because natural gas is also an input and key cost driver in my manufacturing process, the stable, adequate supplies of less expensive domestic natural gas means that there is more activity in many sectors, whether for defense applications, rail applications or general industry and the long term benefits will be significant.

The U.S. must be very cautious in enacting regulatory barriers to increased domestic supplies of oil & gas. Policies that artificially increase prices or restrict supplies would certainly have a direct

negative effect on the entire oil & gas supply chain regardless of company size. But they would also negatively affect hundreds of small manufacturers like Ajax and others in the forging industry supply chain that provide critical components to almost every industry you can imagine – and that means everything from airplanes to hand tools to hip joints. That is why we believe that policies that continue to encourage safe exploration and development of domestic energy sources are vital to the continued revival of U.S. manufacturing, including the forging industry.

Thank you for the opportunity to appear before you today. I look forward to your questions.

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