An Assessment of China's Subsidies to Strategic and Heavyweight Industries

Submitted to the U.S.-China Economic and Security Review Commission

By

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Executive Summary

This study examines China's government subsidies to industries known as "absolute control" and "heavyweight" industries. The absolute control industries are armaments, power generation and distribution, oil and petrochemicals, telecommunications, coal, civil aviation, and shipping. The Chinese government views these industries as being strategic and of vital importance to the proper function of China's safety and economic well being. Government control over these industries is to remain absolute, or close to it. The heavyweight industries are machinery, automobiles, information technology, construction, and iron & steel and non-ferrous metals. These industries are deemed important to the domestic economy. The Chinese government intends to maintain a high degree of control over these industries, but is more willing to tolerate private ownership.

Subsidies exist when a government transfers resources to a producer or exporter. This study attempts to assess the nature and scale of Chinese subsidies to strategic and heavyweight industries by examining the results of U.S. countervailing duty investigations of Chinese subsidies and by reviewing the annual reports of Chinese firms from the favored industries.

The nature of Chinese subsidies

The Chinese government uses subsidies for a variety of purposes, and subsidies come in a variety of forms. Tax subsidies, preferential loans, and grants are the most common form of subsidy. The government also provides favorable input prices and transfers assets to favored firms at prices that are below market value.

Chinese subsidies are both practical and strategic. Practical subsidies reward companies for accomplishing a social policy goal, such as investing in disadvantaged regions to alleviate unemployment. Strategic subsidies are those that seek to advance the overall economic well being of the country by earning foreign exchange, promoting technological development, developing an industry that the government views as being important, or otherwise enhancing China's industrial competitiveness. Examples of strategic subsidies include subsidies that attract foreign investments in export-oriented industries, subsidies that reward companies for investing in research and development facilities, and subsidies that increase the competitiveness of a favored industry.

By their very nature, subsidies are distortive. Strategic subsidies, which seem geared to accelerate China's economic development, have competitive effects because they reduce the costs of the favored Chinese firms relative to firms in the United States and other countries. In competitive international markets, such subsidies would be expected to increase economic activity of favored industries in China relative to activity in the United States. This means higher levels of Chinese output and exports and lower levels of U.S. output and exports.

The value of Chinese subsidies

The value of Chinese subsidies was assessed by examining the countervailing duty determinations made by the U.S. Department of Commerce and corporate financial reports of subsidiaries of state-owned enterprises. These subsidiaries raise money in Hong Kong and other international capital markets, and therefore submit and publish annual reports that contain information about the subsidies received in China.

Both sources confirm that Chinese subsidies are meaningful. Excluding the very high subsidy rates calculated by the Department, which reflect the failure of certain Chinese firms to cooperate in investigations, the range of subsidy rates is 0.57 percent to 44.93 percent, the average subsidy rate is 18.6 percent, and the median subsidy rate is 14 percent. Thus, the extent of subsidization can be the difference between a profitable year and an unprofitable one. The range of subsidy rates derived from the separate analysis of the annual reports of selected absolute control and heavyweight firms is consistent with the findings of the Department, though most subsidy rates from this latter methodology fall in the range of 1-10 percent. One would expect the Department's calculations to be higher because it has access to proprietary information not present in annual reports.

The WTO and Chinese subsidies

The Agreement on Subsidies and Countervailing Measures indicates that export subsidies and subsidies that are contingent upon the use of domestic over imported goods are prohibited. China has for years provided incentives to firms that purchased domestic machinery. This subsidy is mentioned in several annual reports examined below and has been countervailed by the Department. The Department has also countervailed several subsidies that conferred benefits contingent on exports, including a program that encouraged exports by firms with foreign investment.

The U.S. government has taken China to the WTO over prohibited subsidies, and those efforts appear to have had some success. Many of the annual reports examined indicate that the tax code's preferences to foreign invested firms were abolished at the end of 2007. However, this benefit is to be phased out over a five-year period. Many of the firms reporting benefits under the prohibited program that provides tax credits for purchases of domestic machinery have reported that the program was terminated at the end of 2007 and is no longer in effect.

.The SCM Agreement also lays out a number of actionable subsidies, which can be challenged at the WTO via the dispute settlement process or through national countervailing action. Many, though not all, of the Chinese subsidies acknowledged by the government to the WTO are actionable. The Department of Commerce has countervailed many of the actionable subsidies when U.S. industries have petitioned for relief. Some actionable subsidies, such as the provision of electricity at below market rates, are not included in China's subsidy notification and have been difficult to countervail because low rates are believed to be generally available. However, the Department has recently uncovered some evidence of preferential pricing. Chalco's annual report also indicates that the aluminum industry in China has received access to cheap electricity for a number of years.

Chinese subsidies and western firms

Many Chinese subsidies provide tax and other incentives to foreign investors. Exports and research and development activities are highly encouraged. An analysis of U.S. data on foreign direct investment indicates that U.S. firms are increasing capital expenditures in China and value added in China, at a time when U.S. investments in productive equipment have been stagnating.

Press reports also suggest that China has heavily promoted the location of R&D activities to China by foreign firms, and is succeeding. But this desire to attract investment has taken a new twist. In the summer of 2008, China's President Hu Jintao urged the country's scientists, engineers and educators to work toward making China an

"Innovation nation." The government is reportedly devoting substantial sums to achieve this goal. China is also targeting R&D in the aerospace and automotive industries.

It appears that China is no longer content to remain the "workshop of the world" while relying on foreign technologies. Government efforts to construct China's first production facilities for LCD-glass substrate and to promote home-grown wireless technology should be viewed in this light. These efforts are certain to increase competitive pressures on firms that once viewed themselves immune to Chinese competition.

As China's role in the global economy increases, so will the role played by firms subsidized and controlled by Beijing. If these subsidies persist, they will continue to provide Chinese firms with a significant competitive advantage vis-à-vis U.S. firms. In addition to this competitive advantage, U.S. firms must be aware that decisions made by Chinese competitors from strategic and heavyweight industries could reflect government incentives and control, not market incentives and profit. Given the government's streak of economic nationalism, the possibility that Chinese firms in government controlled and heavyweight industries would sacrifice economic profits to achieve official aims should not be discounted.

In order to estimate the competitive effect of Chinese subsidies on U.S. firms, three policy simulations were performed using the Global Trade Analysis Project Data Base and applied general equilibrium model. All three experiments indicated that eliminating Chinese subsidies would increase U.S. output, exports, worker earnings and economic welfare. In contrast, the output of the subsidized industries in China and China's economic welfare would decline.

The stagnant level of equipment stock of U.S. manufacturers, rising U.S. capital expenditures in China, and the rapid expansion of imports from China suggest that Chinese subsidies have been diverting equipment investments from the United States to China, or otherwise limiting U.S. manufacturing investments. The simulation considering this possibility indicated that reversing this pattern would have a beneficial effect on U.S. manufacturers that compete with Chinese firms, and on the overall U.S. economy.

Chinese subsidies and U.S. policy

For many years, the U.S. government did little to address Chinese subsidies. In recent years, however, the U.S. government has sought to eliminate these subsidies through action at the WTO and by modifying a longstanding policy of not investigating subsidies from non-market economies. The WTO cases have brought about policy changes by the Chinese government that should reduce the pronounced policy tilt in favor of foreign investment. The USTR, with the support of several advanced and developing economies, is now addressing China's "famous brands" program subsidies at the WTO.

The Department of Commerce has investigated Chinese subsidies in several industries, and many of these investigations have led to countervailing duties being placed on the imports of subsidized Chinese firms. For U.S. industries in competition with such firms, these U.S. government actions are a very welcome development.

Introduction

This report reviews China's government subsidies to industries known as "absolute control" and "heavyweight" industries.[1] The strategic industries identified by the government are armaments, power generation and distribution, oil and petrochemicals, telecommunications, coal, civil aviation, and shipping.[2] The heavyweight industries are machinery, automobiles, information technology, construction, and iron, steel, and non-ferrous metals.[3]

These industries were specified in a "guiding opinion" issued by China's State Council and State-Owned Assets Supervision and Administration Commission ("SASAC") in December 2006. The State Council is the highest executive organ of state power, as well as the highest organ of state administration. SASAC manages the Chinese Communist Party's efforts to control state-owned enterprises ("SOEs"), while increasing their "economic returns and maintaining the political returns to the government."[4] There is a central government SASAC as well as provincial and municipal SASACs. At the time of this writing, there were 150 central SOEs.[5]

These twelve industries account for a significant portion of China's economy. Firms in many of these Chinese industries, including steel, aluminum, and information technology, compete with U.S. firms, provide inputs to firms that compete with U.S. firms, and/or supply goods and services to U.S. firms and consumers. In today's world of

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[1] This report was commissioned by the United States-China Economic and Security Review Commission.
[2] In this report, the terms "absolute control" and "strategic" are used interchangeably.
[3] U.S.-China Economic and Security Commission, *2007 Report to Congress of the U.S.-China Economic and Security Commission*, Chapter 1.
[4] U.S.-China Economic and Security Commission, hearing on the Extent of the Government's Control of China's Economy and the Implications for the United States, testimony of George Haley, May 25, 2007.
[5] The list of firms owned by the central government's SASAC was viewed in January 2009 at http://www.sasac.gov.cn/n2963340/n2971121/n4956567/4956583.html.

multi-trillion dollar trade flows, the effects of Chinese subsidies are not confined to China.

Part I

Part I of this report provides a general description of subsidies in the context of the World Trade Organization's subsidy agreement and U.S. regulations. For many years, the United States did not countervail Chinese government subsidies because subsidies could not be indentified and measured in a nonmarket economy.[6] However, the U.S. Department of Commerce changed this practice in 2007 to reflect the changed circumstances of China's economy.[7]

Since this decision, there have been 13 countervailing duty cases initiated against China in the United States through December 2008. Part I contains a catalog of the subsidies that were countervailed in these investigations.[8] Programs that bestow benefits on Chinese industries but are not countervailable under WTO rules are also discussed. Part I concludes with an examination of CVD investigations undertaken in Canada and Australia, which also apply anti-subsidies measures to China.

Part II

Part II focuses on the subsidies conferred on the "absolute control" and "heavyweight" industries. These subsidies can arise from central government sources,

[6] Georgetown Steel Corp. v. United States, 801 F.2d 1308 (Fed. Cir. 1986).
[7] *Coated Free Sheet Paper from the People's Republic of China: Final Affirmative Countervailing Duty Determination,* 72 FR 60645 (October 25, 2007) and accompanying Issues and Decisions Memorandum at 19-23.
[8] Typically, a U.S. company or industry initiates a countervailing duty ("CVD") investigation spelling out which subsidies are bestowed upon a Chinese industry or firm producing the "subject" merchandise. The Department then investigates whether the subsidies exist through a series of questionnaires sent to the relevant Chinese firms and the Chinese government, and issues a preliminary determination that includes estimated subsidy values. Department investigators then verify the Chinese responses by interviewing company and government officials in China, and re-value the benefit conferred by the programs the Department finds to be countervailable under U.S. law.

such as the Ministry of Finance or Ministry of Technology; from state-owned banks; and from local government entities.

The financial reports of the SOEs directly owned by the central government through SASAC do not make their financial reports public. But as China has reformed its economy, many of these SOEs have been encouraged to raise money in capital markets in China and beyond in order to increase the efficiency of SOE operations. For strategic and heavyweight SOE, the typical pattern has been to create subsidiaries owned by the fully-government-owned enterprise, and allow the subsidiaries to issue shares in capital markets in China and in money centers such as Hong Kong, New York, and London. The government of China has made it clear that it intends for the centrally-owned SOEs to maintain absolute control over the armaments, power generation and distribution, oil and petrochemicals, telecommunications, coal, civil aviation, and shipping industries.[9] Nevertheless, these SOEs have subsidiaries whose shares are listed in international capital markets, and the official financial statements submitted to the relevant regulatory authorities provide some indication of the subsidies bestowed on firms in these industries. Similar information is available for firms in the heavyweight or pillar industries (machinery, automobiles, information technology, construction, and iron, steel, and non-ferrous metals).

Part II uses these annual financial reports, along with information from the trade press and other sources, to examine the nature and scale of Chinese subsidies to strategic and heavyweight industries. The firms examined appear in **Table 1** below. A subsidy value is calculated for each firm based on information from annual reports.

[9] "China Nails Down Stat-owned Controlling Industries," *AsiaInfo Services* (2006). *HighBeam Research.* 5 Jun. 2008 <http://www.highbeam.com>.

Table 1. Strategic and heavyweight industries examined in this report

Industry	Company A	Company B
Armaments	China Aerospace International Holdings Ltd	AviChina Industry & Technology Co Ltd
Power generation and distribution	Huaneng Power International Inc	
Oil & petrochemicals	PetroChina	Bluechem
Telecommunications	China Telecom Corporation Limited	
Coal	China Shenhua Energy Company Limited	
Civil aviation	Air China	
Shipping	COSCO	
Machinery	Jingwei Textile Machinery Company Limited	
Automobiles	Dongfeng Motor Company	
Information technology	China Electronics Corporation Holdings Co. Ltd.	IRICO Group Electronics Co Ltd
Construction	China State Construction International Holdings Limited	
Iron & steel & non-ferrous metals	Angang Steel Co Ltd	Aluminum Corporation of China Ltd

This material is also useful for determining whether there are any identifiable patterns in incentives that reveal strategic considerations by Beijing.

Part III

Part III focuses on the effects of these Chinese subsidies on competition with U.S. firms. Subsidies reduce the production costs of recipients relative to other countries' firms that do not benefit from subsidies. As a result, the subsidy beneficiaries are willing to produce and sell more products at a given sales price, are able to sell their products at a lower price than would be the case absent the subsidies, or have lower fixed costs.[10] Thus, the first order effect of Chinese subsidies is to increase output, employment, and exports in China relative to the "but-for world" in which there are no Chinese subsidies. Conversely, the competitive position of firms that compete with subsidized Chinese firms declines relative to a scenario in which China does not subsidize its firms.

[10] Certain subsidies lead to downward shift in the supply curve. If the recipient has an upward sloping supply curve and is a price taker, the subsidy enables it to increase the amount of product it supplies at the market price. If the recipient has constant costs, subsidies would enable it to reduce prices by the amount of the per unit subsidy without reducing profits. If a subsidy reduces fixed costs, the supply curve is not affected, but the average cost curve shifts downward, leading to higher profits.

Subsidies and incentives that attract foreign investment and shift production and R&D from one location to another can have long run effects as well, such as higher levels of capital stock, higher technology levels, and better productivity performance in the subsidy granting country, and lower levels of capital stock, less advanced technology, and slower productivity growth in the country where production activity is disadvantaged by the subsidies.[11]

To estimate the competitive effect of China's subsidies, the benefits uncovered in the analyses described in Parts I and II are incorporated into an applied general equilibrium model and database widely used in economic policy analysis, the Global Trade Analysis Project ("GTAP") model and database developed and maintained by the Center for Global Trade Analysis at Purdue University.[12] This exercise enables us to estimate how subsidies provided by China affect the output, trade, and employment of parallel U.S. industries and the overall U.S. economy.

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[11] This is not to say that all foreign direct investment or technology transfer from the United States is bad, or that growth in, and competition from, China is automatically bad. However, work by Ralph E. Gomory and William J. Baumol has demonstrated that as an underdeveloped country starts to catch up to the developed country, it is possible for the loss of industries to become harmful to the interests of the more developed nation. See U.S.-China Economic and Security Commission, hearing on the China and the Future of Globalization, testimony of Ralph E. Gomory, May 19-20, 2005; and Ralph E. Gomory and William J. Baumol, *Global Trade and Conflicting National Interests* (MIT Press, 2000).

[12] Thomas Hertel, ed., *Global Trade Analysis: Modeling and Applications* (Cambridge University Press, 1997); and Betina V. Dimaranan, ed., *Global Trade, Assistance, and Production: The GTAP 6 Database* (Center for Global Trade Analysis, Department of Agricultural Economics, Purdue University, 2006).

Part I: Subsidies in International Trade and the Special Case of China

Introduction

The United States has a long history of using anti-subsidy measures to combat subsidies in other countries.[13] According to one expert on U.S. trade laws, current U.S. countervailing duty laws can be traced to measures employed by the United States in the 1890s. The United States passed its first countervailing duty in 1897.[14]

Subsidies, especially those conferred only on exports (*i.e.*, export subsidies), became a significant problem during the 1930s. Subsequently, the architects of the General Agreement on Tariffs and Trade ("GATT") codified guidelines for distinguishing between acceptable and unacceptable subsidies, and export subsidies were banned.[15] Nevertheless, subsidies remained a problem. By the late 1970s subsidies had become "one of the most frequently used and controversial instruments of commercial policy,"[16] leading John H. Jackson and William J. Davey to declare that competitive subsidization, not normal market forces, were driving world trade in certain sectors.[17]

Ironically, although China was clearly subsidizing its industries at that time, the country and other communist countries were not subject to countervailing duty laws in the United States. That has changed, and several U.S. industries have filed countervailing duty ("CVD") petitions against China since November 2006.

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[13] The terms "anti-subsidy" and "countervailing duty" are used interchangeably in this report.
[14] Greg Mastel, *American Trade Laws After the Uruguay Round*, (Armonk, NY: M.E. Sharpe, 1996) at 110.
[15] Gary C. Hufbauer and Joanna Shelton Erb, "Subsidies in International Trade," in John H. Jackson and William J. Davey, eds. *Legal Problems of International Economic Relations: Cases, Materials, and Text*, second edition, (West Publishing Co., 1990) at 726. The original GATT was negotiated in 1947.
[16] Jackson and Davey at 723.
[17] *Id.*.

In Part I, these investigations are examined with an eye toward determining the level of subsidies conferred upon Chinese firms. The United States is not the only country applying CVD law to China. Accordingly, a summary of anti-subsidy cases in Canada and Australia is provided. Part I begins with a more detailed description of subsidies and anti-subsidy measures.

Subsidies Defined

At its simplest level, a subsidy represents a direct or indirect transfer of resources from the government, and therefore the taxpayers, to a producer or exporter. However, the precise definition of a subsidy for the purposes of applying trade remedies under GATT was unsettled until 1994.[18] According to Article 1 of the prevailing Agreement on Subsidies and Countervailing Measures ("SCM Agreement") that applies to members of the World Trade Organization ("WTO"), a subsidy exists if there is a financial contribution by a government or any form of income and price support and a benefit is conferred. A subsidy is also required to be "specific". Export subsidies and import substitution subsidies are automatically deemed to be specific, while domestic subsidies are specific only if they are limited in law or in fact to an enterprise or industry.[19]

The nuances of the subsidy definition are many, a reflection of the many ways by which governments can provide a financial advantage to domestic enterprises. According to U.S. trade law, which largely tracks the SCM Agreement, a financial contribution means

- the direct transfer of funds, as with a grant, loan, or equity infusion;

[18] Mastel, *American Trade Laws After the Uruguay Round,* at 113.
[19] China agreed in its Accession Protocol that the subsidies provided to state owned firms will be regarded as specific under the SCM Agreement. See Henry Gao, "China's Participation in the WTO: A Lawyer's Perspective," *Singapore Year Book of International Law,* Vol. 11 (2007) at 16.

- the potential direct transfer of funds, as with a loan guarantee;
- foregoing or not collecting revenue that is otherwise due, as with tax credits or deductions from taxable income;
- providing goods or services other than general infrastructure; or
- purchasing goods.

According to the Statement of Administrative Action accompanying the bill to implement the SCM Agreement in the United States, the examples specified in the generic categories above are not exhaustive. This flexibility is especially important with regard to China, where government largesse takes many forms. The following table lists the financial contributions and benefits that are specified in U.S. regulations.[20]

Table 2. Financial contributions and benefits conferred according to U.S. CVD regulations

Financial Contribution	Benefit
Grants	The amount of the grant
Loans	The amount paid on a government-provided loan is less than the amount that would be paid on a comparable commercial loan
Loan guarantees	The amount paid on a loan with a government-provided guarantee is less than the amount that would be paid on a comparable commercial loan obtained without the guarantee.
Equity infusion	The government either pays more than private investors for newly issued shares, or infuses equity into a firm in which private investors would not invest
Debt forgiveness	The amount of principal and/or interest that the government assumes or forgives
Direct and indirect taxes	The tax paid by a firm, including interest charges on deferred taxes, is less than the tax that would have been paid in the absence of the program
Provision of goods or services	The goods or services are provided for less than adequate remuneration
Worker-related subsidies	Government-provided assistance to workers relieves a firm of an obligation it would normally incur.
Internal transport and freight charges for export shipments	The charges paid for by the firm for transport or freight with respect to export sales are less than what the firm would have paid if the goods were destined for domestic consumption

[20] FR 63 (Nov. 25, 1998) 65408-65418.

Ctd.

Financial Contribution	Benefit
Price preferences for inputs used in the production of exports	The terms or conditions on which products and services provided for the production of exports are more favorable than terms and conditions for the production of goods for domestic consumption
Exemption or remission upon export of indirect taxes	The amount remitted or exempted upon export exceeds the amount levied with respect to the production and distribution of products for domestic consumption
Remission or drawbacks of import charges upon export	The amount of remission or drawback exceeds the actual amount of import charges on imported inputs that are consumed in the production of the exported product
Upstream subsidies	A countervailable subsidy is provided with respect to an input product and the subsidized input has a significant effect on the cost of manufacture

International trade law classifies subsidies in accordance with their potential to distort trade flows. There are three broad categories of subsidies: prohibited, actionable, and non-actionable. According to Article 3 of the SCM, Members of the WTO are prohibited from maintaining export subsidies. Subsidies that are contingent upon the use of domestic over imported goods are prohibited. These subsidies are clearly trade distorting because they provide official financial incentives to firms that export or replace imports with domestically made goods. **Appendix 1** contains the list of export subsidies from the SCM Agreement. A WTO member that maintains prohibited subsidies can be challenged by other members through the WTO's dispute settlement process.

While not prohibited, actionable subsidies are subject to challenge, either through the dispute settlement process or through national countervailing action, in the event that they cause adverse effects to the interests of another Member. Adverse effects take the form of 1) injury to a domestic industry caused by subsidized imports in the territory of the complaining Member; 2) serious prejudice (*e.g.,* export displacement), which can occur in the market of the subsidizing Member or in a third country market; and 3) nullification or impairment of benefits (*e.g.,* subsidies offset the anticipated improvement in market access) accruing under the GATT 1994.

Non-actionable subsidies are described in Article 8 of the SCM Agreement. They include subsidies that are not specific, assistance for research activities conducted by firms or higher education or research establishments on a contract basis, assistance to disadvantaged regions, and assistance to promote the adaptation of existing facilities to newly imposed environmental requirements.[21] See **Appendix 2** for a list of the subsidies notified by China its notification of 2006.

A number of other subsidies, such as low priced water, electricity, and fuel are frequently not countervailable because the subsidized low prices are not specific. China did not include such subsidies in its official notification. Instead, the benefit is considered to be generally available because the government keeps prices low for all industries and consumers. As such, in most cases thus far, the U.S. Department of Commerce has refused to countervail low energy prices and water prices in China, even though Chinese policies confer a benefit to domestic producers in the form of low-priced electricity and water.[22] Recently, however, the Department discovered that the national government set lower electricity prices in one particular area of the country and countervailed the practice as a regionally specific subsidy.[23]

In the past, the U.S. government shied away from assessing countervailing duties on imports from countries such as China which it considered to have "nonmarket

[21] Certain conditions must be met for assistance for research, disadvantaged regions, and adaptation to environmental requirements to be deemed non-actionable.
[22] The value of this benefit to a Chinese aluminum producer is calculated in Part II of this report.
[23] *Lightweight Thermal Paper From the People's Republic of China: Final Affirmative Countervailing Duty Determination*, 73 FR 57323 (October 2, 2008) and accompanying Issues and Decision Memorandum at 60-61.

economies."[24] The U.S. policy dates back to a ruling the Department made in 1984. In what is commonly known as the "Georgetown Steel" case, the Department reasoned that it was impossible to identify and measure a subsidy in a nonmarket economy because all pricing and production was controlled by the state.[25] In other words, the Department considered the country an entity with no market-based values. Any "subsidy" therefore was simply a nominal transfer from one government bureau to another. The Georgetown Steel policy applied to all nonmarket economies for more than twenty years.

Recently, the U.S. government has carved out an exception to its Georgetown Steel policy with respect to China.[26] In 2007, the Department finalized its first countervailing duty investigation against China, ruling that China's present-day economy has advanced beyond the "Soviet-style" system of the past. The Department concluded that all pricing and production is no longer determined by the state. As such, it can now identify and measure subsidies in China.

This decision, however, is highly nuanced. The Department continues to consider China a nonmarket economy.[27] In other words, the Department posits that China has decreased state influence to a sufficient level where subsidies can be identified and measured but not to a level where many prices and costs are meaningful.[28] This position

[24] The Commerce Department determines whether a country has a market or nonmarket economy for purposes of calculating antidumping duties.
[25] Georgetown Steel Corp. v. United States, 801 F.2d 1308 (Fed. Cir. 1986).
[26] *Coated Free Sheet Paper from the People's Republic of China: Final Affirmative Countervailing Duty Determination,* 72 FR 60645 (October 25, 2007) and accompanying Issues and Decisions Memorandum at 19-23.
[27] In antidumping cases, Commerce disregards all input and output values in China when calculating antidumping duties.
[28] Indeed, many of the companies examined in Part II have comprehensive agreements with their government-owned parents and affiliates which spell out pricing rules for the goods and services traded between them.

is highly controversial. Several years of legal disputes will undoubtedly determine whether the China exception will survive in its present form.[29]

Subsidy Investigations of the U.S. Department of Commerce

The first U.S. CVD investigation against China since the Georgetown decision was initiated against Chinese producers of coated free sheet paper on November 27, 2006. During the next two years, the Department initiated twelve other investigations after petitions for relief from U.S. industries. The following table contains a list of the investigations and the dates on which official notices of initiation were published in the U.S. Federal Register. The Department made subsidy findings in each investigation completed through December 2008 though did not countervail all programs alleged by petitioners.[30]

Table 3. U.S. countervailing duty investigations initiated by the U.S. Department of Commerce, 2006-2008

Case/Industry	Date Initiated
Coated Free Sheet Paper	11/27/2006
Circular Welded Pipe	7/5/2007
Off-The-Road Tires	8/7/2007
Light-walled Rectangular Pipe	7/24/2007
Woven Sacks	7/25/2007
Magnets	10/18/2007
Light weight Thermal Paper	10/29/2007
Sodium Nitrate	11/29/2007
Circular Welded Austenitic Stainless Pressure Pipe	2/25/2008
Circular Welded Line Pipe	4/29/2008
Citric Acid and Citrate Salts	5/12/2008
Tow-Behind Lawn Groomers	7/21/2008
Certain Kitchen Appliance Shelving and Racks	8/26/2008

[29] Every case thus far has been disputed in both U.S. courts and at the WTO.
[30] There are several reasons why the Department might not countervail a particular program. For example, the Department might not find evidence that a program exists. Other programs might exist, but provide a subsidy that is too small (less than 0.005 percent) to countervail. Some programs may confer financial contributions and benefits, but are not specific.

The results of the Department's investigations offer the most comprehensive accounting of the nature and scale of Chinese government subsidies. However, much of the information collected during the investigations is proprietary and not publically available. The Department does disclose the identities of the investigated firms, the subsidy programs found to be countervailable, and the magnitude of the subsidies. It is not clear which, or if any, firms belong to industries deemed strategic or heavyweight by national authorities in December 2006. But the subsidy programs countervailed by the Department and magnitude of the various subsidies provide a window into the types of programs China is using to support strategic and heavyweight industries.

Appendix 3 contains a summary, by company, of the rates applied by the Department of Commerce. Final investigation rates range from 0.57 percent to 616.83 percent.[31] Rates in excess of 100 percent often indicate that a mandatory respondent and/or the government provided incomplete or false information to the Department of Commerce or otherwise failed to cooperate to the best of their ability. In such instances, in order to encourage the submission of complete and accurate information, the Department can base its determination on facts otherwise available (*i.e.,* facts other than those provided by the respondent(s)) and can make "adverse inferences."[32] The following excerpts from the Federal Register Notice of the final CVD determination for Circular Welded Carbon Quality Steel Pipe from the People's Republic of China provides an illustration of the Department's reasoning when faced with a lack of complete and accurate cooperation.

[31] The Department issues a preliminary subsidy determination based on questionnaire responses and then a final determination. **Appendix 3** contains both rates for cases that were concluded as of December 2008, but only preliminary rates for ongoing investigations.
[32] This practice also ensures that firms that fail to cooperate will not receive more favorable rates than firms that do cooperate.

> The Department has concluded that it is appropriate to base the final determination for Tianjin Shuangjie Pipe Group Co., Ltd. ("Shuangjie") on facts otherwise available. Shuangjie failed to respond at all to the Department's October 24, 2007, request for shipment data relating to the allegation of critical circumstances, did not respond to the Department's October 25, 2007, supplemental questionnaire, and finally, on October 31, 2007, withdrew all of its proprietary information from the record.
>
> Consequently, the use of facts otherwise available is warranted under section 776(a) (2) (A) of the Act.
>
> In selecting from among the facts available, the Department has determined that an adverse inference is warranted, pursuant to section 776 (b) of the Act because, in addition to not fully responding to all our requests for information, Shuangjie withdrew from all participation and did not provide the Department with the opportunity to verify the information it did submit. Thus, Shuangjie failed to cooperate by not acting to the best of its ability, and our final determination is based on total [adverse facts available].
>
> We have also determined that it is appropriate to apply facts available with respect to certain information that the [government of China] failed to provide, or information that could not be verified. Specifically, despite the Department's requests to submit sub-national government plans relating to the steel industry in the PRC, the GOC stated that none existed. However, at verification, the Department discovered the existence of the Shandong Provincial Steel Plan. Additionally, the Department was unable to verify information regarding the level state ownership in the [hot rolled steel] industry in the PRC because the [government of China] misrepresented the source of the data. In both instances, the GOC failed to act to the best of its ability and, consequently, application of [adverse facts available] is warranted.[33]

While the application of AFA rates is justified in the context of subsidy investigations, actual subsidy rates are unlikely to be in excess of 100 percent. Among the subsidies calculated without total adverse facts available, the range of subsidy rates is 0.57 percent to 44.93 percent, the average subsidy rate is 18.6 percent, and the median

[33] 73 FR 31968, June 5, 2008.

subsidy rate is 14 percent.[34] **Table 4** contains range of rates for each investigation as of December 2008.

Table 4. U.S. countervailing duty subsidy rates as determined by the U.S. Department of Commerce, 2006-2008

Case/Industry	Range of rates
Coated Free Sheet Paper	7.4 to 44.25
Circular Welded Pipe	29.62 to 616.93
Off-The-Road Tires	2.45 to 14.00
Light-walled Rectangular Pipe	2.17 to 200.58
Woven Sacks	29.54 to 352.82
Magnets	109.95
Light weight Thermal Paper	0.57 to 138.53
Sodium Nitrate	169.01
Circular Welded Austenitic Stainless Pressure Pipe 1/	1.47 to 105.73
Circular Welded Line Pipe	35.63 to 40.05
Citric Acid and Citrate Salts 1/	1.41 to 97.72
Tow-Behind Lawn Groomers 1/	0.95 to 254.52
Certain Kitchen Appliance Shelving and Racks 1/	13.22 to 197.14

1/ CVD rates are based on preliminary findings.

Given that some company rates are inflated due to the failure of certain respondents to cooperate, a review of CVD rates by program is also instructive.[35] The program-specific analysis appears in **Appendix 4**. The table contains 80 program specific rates, with an average CVD rate of 3.11 percent and a median rate of 0.37 percent.

The data indicate that subsidized Chinese firms tend to benefit from more than one program. The minimum number of countervailed programs per firm is two, while the maximum number of countervailed programs (achieved by Guangdong Guanhao High-Tech, a producer of lightweight thermal paper) is 15. The average number of

[34] For domestic subsidies, the CVD rate is equal to the subsidy value divided by the company's sales value. For export subsidies, the CVD rate is equal to the subsidy value divided by export sales. In an investigation where both domestic and export subsidies are present, the two rates are additive.
[35] This analysis includes preliminary rates if no final rates are available and excludes firms who received total AFA rates. The preliminary rates for programs involved in Certain Kitchen Appliance Shelving Racks are excluded, as those rates were not published in the Federal Register prior to 2009.

countervailed programs per firm is 4.5, while the median number of programs per firm is 4. The most frequently countervailed programs through December 2008 are policy lending and tax subsidies to foreign invested firms based on location, which have been countervailed 7 times each. The second most frequently countervailed programs is the provision of hot-rolled steel at less than adequate remuneration, which has been countervailed six times. The most lucrative program for recipients has been the provision of hot-rolled steel at less than adequate remuneration. **Table 5** contains the average CVD rates of the most common programs investigated through December 2008.[36] An additional 22 programs have been countervailed only once. The median CVD rate for those programs is 0.18 percent.

Table 5. Most commonly countervailed programs and average rates in China CVD cases, 2006-2008

Program	Frequency	Average CVD Rate
Policy Lending	7	1.86%
Tax Subsidies to FIEs Based on Location	7	0.30%
Provision of Inputs for Less than Adequate Remuneration: Hot-rolled Steel	6	26.08%
"Two Free, Three Half" Income Tax Program	6	1.18%
Provision of Land for Less than Adequate Remuneration	5	3.20%
VAT and Tariff Exemptions on Imported Equipment	5	0.68%
Debt Forgiveness	4	5.34%
VAT Rebates on FIE Purchases of Domestically Produced Equipment	4	0.25%
Local Income Tax Exemption and Reduction Program for "Productive" FIEs	4	0.18%
Provision of Inputs for Less than Adequate Remuneration: Rubber	3	0.08%
Export Loans	2	1.06%
State Key Technology Renovation Project Fund	2	0.17%
Foreign Trade Development Fund	2	0.07%
Stamp Tax Exemption on Share Transfer	2	0.02%

[36] The table is based on final CVD rates for concluded investigations and preliminary rates for investigations that were ongoing as of December 2008. It excludes firms that received total AFA rates.

Table 6 below illustrates that the tax-oriented Chinese subsidies are the most frequently countervailed "financial contribution" from government to industry, with 14 instances. Grants are the second most countervailed type of program, with nine instances, while the provision of goods or services for less than adequate remuneration has been countervailed six times. These three types of subsidies account for 80 percent of the programs countervailed by the Department in subsidies cases through the end of 2008.

Table 6. Most common types of financial contributions in China CVD cases, 2006-2008

Financial Contribution	Number of Chinese Programs	Share of total
Direct and indirect taxes	14	38.9%
Grants	9	25.0%
Provision of goods or services	6	16.7%
Loans	4	11.1%
Exemption or remission upon export of indirect taxes	2	5.6%
Debt forgiveness	1	2.8%

The Department's subsidy investigations also demonstrate that provincial and municipal authorities, not just central authorities, subsidize firms that produce goods for export in local facilities. Subsidies granted by sub-national authorities and countervailed by the Department include: the municipalities of Huzhou City, Shanghai, Zhanjiang City, Yixing City, and Anqiu City, and the provinces of Shandong, Guangdong, and Liaoning.

The characterization of subsidies as national or sub-national may be a distinction without a difference. Under Chinese law, provincial and municipal authorities are required to follow the dictates of central authorities. The relationship between central, provincial, and local governments is described in the excerpt from the following a recent "Issues and Decision" Memorandum:

> Specifically, the central-level plans set goals regarding macroeconomic policies and provide a vision for economic development, market and regulatory activities, social administration, and the provision of public services. The [government of China] explained that the provincial and city five-year plans are drafted based on the goals and objectives of the central-level plans. In other words, local governments (i.e., provinces and cities) must align their policies with stated central government policies and carry out those policies to the extent that such measures affect their locality. As such, central-level plans should be considered a central government policy or program that local governments adopt and implement through their own five-year plans.[37]

There are, however, instances when local and central government officials are at cross purposes. For example, local officials may fund a local enterprise even if the central government has different priorities, such as industry consolidation that would place a regional firm under a central SOE.[38]

It is evident from the list of subsidies in **Appendix 4** that the Department has countervailed many programs aimed at attracting foreign investors. **Table 7** below shows the programs specifically aimed at foreign invested enterprises ("FIEs"). Thirty-one of the programs countervailed by the Department, nearly 40 percent, are directly aimed at attracting foreign investments.

[37] Department of Commerce, *Issues and Decision Memorandum for the Final Affirmative Countervailing Duty Determination: Certain New Pneumatic Off-the-Road Tires (OTR Tires) from the People's Republic of China* (July 7, 2008) at 13-14. *Citations omitted.*

[38] "China Steelmakers Confirm Launch of Shandong Titan," *Reuters* (August 01, 2006) at http://jo2.mofcom.gov.cn/aarticle/chinanews/200608/20060802771939.html. See, also, Eurofer Report at 48-55.

Table 7. Chinese subsidy programs oriented toward FIEs and countervailed by the U.S. Department of Commerce, 2006-2008

Program	Frequency	Average CVD Rate
Tax Subsidies to FIEs Based on Location	7	0.30%
"Two Free, Three Half" Income Tax Program	6	1.18%
VAT and Tariff Exemptions on Imported Equipment	5	0.68%
VAT Rebates on FIE Purchases of Domestically Produced Equipment	4	0.25%
Local Income Tax Exemption and Reduction Program for "Productive" FIEs	4	0.18%
Reduced Income Tax Rate for Technology or Knowledge Intensive FIEs	1	2.07%
Refund of Enterprise Income Taxes on FIE profits Reinvested in an Export-Oriented Enterprise	1	0.64%
Income Tax Credits on Purchases of Domestically Produced Equipment by FIEs	1	0.11%
Income Tax Reductions for Export-oriented FIEs	1	0.15%
FIE Land Tax Waiver	1	0.09%

Foreign direct investment has long been viewed as desirable in China. As implied by the program names, Chinese subsidies aimed at foreign investors have many purposes. For example, the government provides subsidies to FIEs that invest in certain areas. As the Departments explains,

> FIEs are encouraged to locate in designated coastal economic zones, special economic zones, and economic and technical development zones in the PRC through preferential tax rates. This preference was originally created in June 1988 by the Finance Ministry under the "provisional Rules on Exemption and Reduction of Corporate Income Tax and Business Tax of FIE in Coastal Economic Zone" and was administered during the [period of investigation] under the Income Tax Law of the People's Republic of China for Enterprises with Foreign investment and Foreign Enterprises.[39]

The two free, three half program, which exempts FIEs from income tax in their first two profitable years and reduces income taxes by 50 percent in the subsequent three

[39] Department of Commerce, *Issues and Decision Memorandum for the Final Determination in the Countervailing Duty Investigation of Lightweight Thermal Paper from the People's Republic of China* (September 25, 2008) at 15.

years, was enacted in 1991 to attract foreign businesses to China. In order to qualify for this program, FIEs must engage in the following industries: 1) machine manufacturing and electronics; 2) energy resource (excluding oil and natural gas); 3) metallurgical, chemical and building material industries; 4) so-called light industries, and textile and packaging; 5) medical equipment and pharmaceutical; 6) agriculture, forestry, animal husbandry, fishery and water conservation; 7) construction; 8) communications and transportation (excluding passenger transport); 9) services related to the development science and technology and other services related to repair and maintenance of production equipment and precision instruments; and 10) any other industries specified by tax authorities under the State Council.[40]

Other tax preferences aim to influence the behavior of FIEs by reducing the cost of importing necessary equipment. The programs also encourage FIEs to purchase domestic equipment if available, produce more sophisticated products, to export, and reinvest export-related profits in China.

Although many of the subsidy programs countervailed by the Department are aimed at attracting the investment of foreign companies, the companies listed in **Appendix 3** are not easily recognizable as western firms. There are four explanations for this phenomenon. First, in some cases, the FIE may be owned by a firm, based in Hong Kong or elsewhere, whose ownership is really Chinese. Second, the source of foreign capital is a non-western firm. For example, Yixing Union, a Chinese producer of Citric Acid, is 50-percent owned by a Thai firm.[41] Third, U.S. firms that are benefitting from

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[40] Department of Commerce, *Issues and Decision Memorandum for the Final Determination in the Countervailing Duty Investigation of Circular Welded Carbon Quality Steel Line Pipe (Line Pipe) from the People's Republic of China* (November 17, 2008) at 12-13.
[41] See 2007 Annual Report of Saha-Union Public Company Limited at 110.

FIE incentives in China may be reluctant to file petitions against Chinese subsidy programs for fear of losing those benefits. That is, the paucity of recognizable firms in China CVD cases is not a reflection of foreign disinterest in Chinese subsidies, but rather an indication of their success in attracting foreign investors to China. Fourth, in certain industries, such as steel, the government of China must approve foreign ownership. Established foreign steel producers that have tried to purchase controlling shares in Chinese steel makers often have failed due to government opposition.[42]

Subsidy Investigations in Canada and Australia

Both Canada and Australia have applied the CVD law to China in recent years. Since the Uruguay Round, Canada has launched several investigations into Chinese subsidies. Australia, on the other hand, initiated only one investigation which it terminated before rendering a final decision.[43]

To date, Australia has not imposed countervailing duties on subsidized imports from China. Australia has, however, supported the U.S. position before the WTO that China provides subsidies which violate the SCM agreement. For example, Australia supported the U.S. dispute over certain prohibited or "red light" subsidies (i.e., export subsidies and import-substitution subsidies). As a third party in the dispute, Australia argued that China's refunds, reductions, or exemption from taxes and other monies owned to the government were export-contingent or supported the purchased of domestic

[42] Alan Price, et al., *Money for Metal* (July 2007) at 12. ArcelorMittal is the second largest shareholder of the Hunan Valin Group, but has failed to secure Chinese government approval to purchase a majority share of steel maker China Oriental, a 38 percent share of the Laiwu Steel Group, and a 25 percent share of Angang Steel, China's second largest steel producer. "ArcelorMittal play for bigger China Oriental stake seen failing," *American Metal Market* (August 6, 2008); Vivian Wai-yin Kwok, "Mittal Gets Iron Clawhold into Angang Steel," *Forbes* (2008).

[43] *Certain Toilet Paper Exported from the People's Republic of China: Withdrawal of Application for a Countervailing Duty Notice*, Australian Customs Dumping Notice No. 2008/38 (October 24, 2008).

over imported goods.[44] It remains to be seen whether Australia will utilize the CVD law to impose duties on subsidized imports from China.[45]

Unlike Australia, Canada has imposed countervailing duties on subsidized imports from China.[46] Beginning in 2004, Canada investigated subsidies provided to various steel products, laminate flooring, and thermoelectric coolers and warmers. From 2004 to 2008, the Canadian Border Services Agency ("CBSA") initiated six investigations to which it ultimately found countervailable subsidies. The following table contains a list of the investigations and the dates on which the cases were initiated. Like the U.S. Commerce Department, the CBSA made subsidy findings though did not countervail all programs alleged by the domestic industry.

Table 8. Canadian countervailing duty investigations initiated by the Canadian Border Services Agency, 2006-2008

Case/Industry	Date Initiated
Carbon Steel and Stainless Steel Fastners	4/28/2004
Certain Laminate Flooring	10/4/2004
Copper Pipe Fittings	6/8/2006
Seamless Carbon or Alloy Oil and Gas Well Casing	8/13/2007
Carbon Steel Welded Pipe (Circular Welded Pipe)	1/23/2008
Certain Thermoelectric Coolers and Warmers	5/15/2008

Attached at **Appendix 5** is a more detailed chart including the subsidy programs and countervailing rates imposed.

Similar to the U.S. investigations, not all of the firms involved in the investigations belong to industries deemed strategic or heavyweight. However, the subsidy programs countervailed by the CBSA do provide a glimpse at the magnitude and types of programs China is using to support key industries. Most notable are

[44] *US Action Against China Takes Center Stage*, Australian Industry Group (Winter 2007).
[45] Because Australia considers China to be a market economy, it does not face the same potential legal disputes as other countries when applying the CVD law to China.
[46] Like the United States, Canada both investigates subsidies and simultaneously considers China a nonmarket economy.

investigations involving steel given that the steel industry is a “strategic” or “pillar” industry.

As with the United States, the CBSA found that upstream steel inputs are provided to downstream producers for less than adequate remuneration. The largest countervailable subsidies stem from the provision of the hot-rolled steel inputs. The GOC provides the subsidy through its majority-owned control over the industry.[47] The GOC sets policy through various industrial plans and executes the policy by way of its controlling ownership stake. The GOC guides steel supplies and maintains low input prices for downstream export-oriented producers. As such, the CBSA found that world prices for hot-rolled steel differ substantially from those in China.[48] The differential is substantial. For example, the CBSA found that the GOC provided significant subsidies to steel producers, ranging from 25 to 113 percent for carbon steel welded pipe.[49]

International Perspectives

Although the United States and Canada are at the vanguard of efforts to apply anti-subsidy laws to China, it is clear that worries about Chinese subsidies extend beyond U.S. borders.

In 2007, the European Union released a major study of *Future Challenges and Opportunities in EU-China Trade and Investment Relations*.[50] The study covered a number of industrial and service sectors, including the automotive, chemical, machinery, and information communication technology “heavyweight” industries.

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[47] *Statement of Reasons Concerning the Making of Final Determination With Respect to the Dumping and Subsidizing of Certain Carbon Steel Welded Pipe Originating In Or Exported From the People’s Republic of China*, 4214-16 (AD/1373) 4218-24 (CVD/123) (August 5, 2008) at 36-37.
[48] *Id.* at 59.
[49] See **Appendix 5**.
[50] Emerging Markets Group and Development Solutions, *Study on the Future Opportunities and Challenges of EU-China Trade and Investment Relations* (February 2007) (hereafter, *EU-China TIR*).

The study of the Chinese automotive sector found that "government directs the banks to give 'policy' loans to bankrupt SOEs."[51] But subsidies are not confined to government-owned firms. For example, the privately-owned Chery has reportedly received massive state support.[52] The study's author concludes that Chinese government support for the domestic automotive industry is the most significant market distortion affecting that industry and has the most significant impact on the industry's competitiveness.[53] The chemical industry study noted that favorable tax treatment, especially the two free, three half program, provides new ethylene plants in China with a cost advantage over competitors in the United States, Europe, and other Asian countries.[54] The authors of the machinery industry study found that European firms were adversely affected by "irrational competition from subsidised competitors,"[55] that China's subsidies were increasingly doled out by local governments,[56] and that the average SOE in China would lose money but for government subsidies.[57] The study on information communication technology equipment ("ICT") determined that firms in the industry receive direct funding from government ministries, particularly the Ministry of Information and Industry.[58] The government of China has provided seed money to support Chinese high-tech companies, Vimicro the first Chinese semiconductor company to trade shares on the NASDAQ.[59]

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[51] Eric Thun, "Study 3: Transport Equipment – Automotive," in *EU-China TIR* at 16.
[52] *Id.*
[53] *Id.* at 35.
[54] Klaus Griesar , "Study 2: Chemicals," in *EU-China TIR* at 23.
[55] Joachim Ihrcke and Krystina Becker, "Study 1: Machinery," in *EU-China TIR* at 2.
[56] *Id.* at 28-29.
[57] *Id.* at 15.
[58] John Ure, "Study 5: ICT Equipment," in *EU-China TIR* at 25.
[59] *Id.* at 16.

At the time of this writing, the EU had refrained from filing an anti-subsidy case against China. However, the EU has noted the prevalence of subsidies in a recent antidumping investigation of citric acid from China. The Commission regulation imposing a provisional anti-dumping duty on Chinese citric acid found that two companies obtained land and other fixed assets "for prices substantially below market value."[60] A third company received government funds during a one-year period amounting to 10 percent of the firms total assets and rented certain items without charge.[61] The Commission also determined that many of the companies being investigated benefitted from non-market loans. Chinese banks from the state-dominated banking sector provided loans in amounts beyond those allowed by their own policies.[62] A fourth company received bank loans amounting to 20 percent of company assets without any arrangements made for interest payments or accruals.[63]

The EU may soon join the United States and Canada in applying CVD laws to Chinese subsidies and/or challenging Chinese subsidies at the WTO. Eurofer, the association of EU steelmakers, is urging stronger enforcement of trade remedy laws against China trade. Eurofer claims that the Chinese government has created cost advantages for Chinese firms through subsidies, preferential loans, debt forgiveness, and by lowering the level of labor rights and labor and environmental standards.[64] The

[60] Commission Regulation (EC) No. 488/2008 (June 2, 2008) at par. 26.
[61] *Id.* at par. 27.
[62] *Id.* at par. 25.
[63] *Id.* at par. 28.
[64] "Eurofer points finger at China for hindering its steel market," *China Business News* (February 26, 2009).

textile, ICT, machinery, and farm products industries are believed to be in discussions with the European Commission about challenging Chinese subsidies before the WTO.[65]

The steel industry in Europe is particularly concerned about the role played by subsidies in expanding Chinese steel production capacity. A recent report funded by the industry noted China, within a matter of years, had been transformed from a net steel importer into the world's largest steel exporter, accounting for 20.7 percent of global steel exports in 2007, and one-third of the world's output.[66] Prepared by the consultancy THINK!DESK, the report documents subsidies to the Chinese steel industry from 2001 to 2007 and provides numerous examples of government largesse prior to China's entry into the WTO, when the Chinese government was bolstering the country's indebted and woefully inefficient steel industry to prosper once China entered the World Trade Organization.[67] Subsidies amounting to billions of dollars include grants; subsidized loans; debt forgiveness and debt-to-equity swaps; access to land, water, electricity at below-market prices; and VAT rebates to steel makers providing steel to export-oriented industries.[68] The Eurofer Report also documents a variety of government subsidies, by company and type of subsidy, conferred during the 2001-2007 period. For example, the preferential subsidy granted to support domestic equipment purchases disbursed RMB

[65] "EU may follow US and Mexico on WTO challenge of alleged breach by Chinese mainland of subsidy rules," *hktdc.com* (undated).
[66] Markus Taube and Christian Schmidkonz, *The State-Business Nexus in China's Steel Industry—Chinese Market Distortion in Domestic and International Perspective*, (January 2009) prepared for the European Confederation of Iron and Steel Industries (hereafter, "Eurofer Report") at 11 and 13.
[67] *Id.* at 78-90. "Before China joined the WTO on December 11th, 2001, state-owned enterprises were systematically prepared for the new business environment and in many cases provided with additional financial and other resources – an 'extra layer of fat' to soften the shock of becoming exposed to the international market place and its atmosphere of competition."
[68] *Id.* at 78-90.

3.4 billion ($416.2 million) to 20 steel producers during the period.[69] The bulk of these subsidies occurred during the 2003-2007 period, during the rapid run-up in Chinese steel exports.

Chinese subsidies are not just a concern for the so-called advanced economies. Many developing countries are also concerned. For example, Colombia, Ecuador, Guatemala, and Mexico have requested to join consultations between the United States and China over China's World Top Brand Program, a collection of grants, loans, and other incentives that the United States is challenging through the WTO's dispute settlement process.[70] A South African maker of stainless steel kitchen sinks filed a countervailing duty petition against Chinese imports. This petition marks the first CVD filing against Chinese subsidies by a developing economy.[71] The government of China allegedly had the case withdrawn by applying pressure on the South African producer's Swiss owner, which has operations in China.[72]

Other Preferences

Other government policies in China have enhanced the competitiveness of firms operating in China relative to competitors elsewhere. Among the policies most cited are

[69] *Id.* at 132-133. As discussed in Part II of this study, the import substitution subsidy for domestic equipment has benefitted several firms in absolute control and heavyweight industries. The dollar estimate was calculated using the annual Yuan-dollar exchange rate published by the U.S. Federal Reserve Board (Statistical Release G.5A).

[70] *China—Grants, Loans, and Other Incentives: Request for Consultations by the United States*, WT/DS387/1, G/L/879, G/SCM/D81/1, G/AG/GEN/79 (January 7, 2009); and *Acceptance by China of the Requests to Join Consultations*, WT/DS387/11 (February 3, 2009).

[71] "China welcomes S. Africa decision to end investigation of Chinese products," Xinhua News Agency (February 9, 2009).

[72] Mathabo Le Roux, "South Africa: China Blocks Subsidy Challenge from Country," *allAfrica.com* (February 17, 2009) at http://allafrica.com/stories/printable/200902160074.html.

China's exchange rate policy,[73] and China's lax enforcement of labor laws and environmental standards.[74]

Many economists have concluded that China's undervalued Yuan strongly influences China's trade.[75] At the time of this writing, the Yuan was still believed to be significantly undervalued. Although a number of U.S. CVD petitions have alleged that China's weak currency confers a subsidy, the Department of Commerce has not yet initiated an investigation on China's exchange rate program.

The Chinese government has prevented or limited an appreciation of the Yuan through sustained purchases of foreign currency, primarily U.S. dollars, since 1994. At the outset of 1994, China devalued the Yuan from RMB 5.8145 per dollar to RMB 8.7217 per dollar.[76] The Central Bank of China was forced to intervene in foreign exchange markets in order to limit the Yuan's appreciation.[77] From May 1995 to September 25, 1998, the daily exchange rate averaged RMB 8.32 per dollar, only rarely dropping below 8.3 per dollar. On September 28, 1998, the Yuan hit 8.2783 per dollar, and remained within RMB 0.0124 of that rate through May 21, 2005. From January 1994 to June 2005, China's foreign currency reserves increased by $688.8 billion, mostly

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[73] See, for example, "The Chinese Economy: Progress and Challenges Ben S. Bernanke," Speech at the Chinese Academy of Social Sciences, Beijing, China (December 15, 2006).
[74] See, for example, Eurofer Report at 152-153.
[75] See, for example, Jeffrey Frankel, *On the Renminbi: The Choice between Adjustment under a Fixed Exchange Rate and Adjustment under a Flexible Rate*, (October 13, 2004); Morris Goldstein, *A (Lack of) Progress Report on China's Exchange Rate Policies*, Peterson Institute for International Affairs WP 07-5 (June 2007); Michael Mussa, "IMF Surveillance over China's Exchange Rate Policy," in Morris Goldstein and Nicholas Lardy, eds., *Debating China's Exchange Rate Policy* (April 2008) at 279-339; Jian Lu, "Empirical study on the influence of RMB exchange rate misalignment on China's export," *Frontiers of Economics in China* 2007 2(2): 224-236; and Yu Hsing and Wen-Jen Hsien, "Impacts of Monetary, Fiscal and Exchange Rate Policies on Output in China: A VAR Approach," *Economics of Planning* (2004) 37: 125-139.
[76] The daily exchange rates used for this analysis are available from the Federal Reserve Bank of St. Louis at http://www.research.stlouisfed.org/fred2/series/DEXCHUS?cid=282.
[77] Yan-jun Huang, "On the Current RMB Exchange Rate Regime Affecting the Effectiveness of Monetary Policy," *Journal of Zhejiang University* Vol. 2 (Apr. – June 2001) at 227-231.

in U.S. dollars. Beginning in July 2005, China has pegged the Yuan to a basket of currencies, but has continued to accumulate foreign currency reserves.[78]

The undervalued Yuan stimulates Chinese exports above the level that would occur if the Yuan were weaker, and depresses imports into China by raising their relative prices.[79] Although some observers argue that the extent to which a weaker currency subsidizes exports is not entirely clear,[80] China's experience suggests that the stimulus has been significant. The massive devaluation at the outset of 1994 stimulated exports from China, increased foreign exchange inflows, and created pressure to appreciate the Yuan.[81] As a result, the Central Bank of China was compelled to increase China's foreign exchange currency reserves in 1994 and 1995 by $53 billion dollars, more than had been accumulated *during the thirteen years prior to the devaluation*.[82] In contrast, the Yuan appreciated relative to many other Asian currencies following the Asian crisis of 1997. This led to a dramatic reduction in export growth, an increase in imports, and a decline in the amount of foreign currency purchases needed to maintain the Yuan's fixed exchange rate.[83] Even before the current global recession, the stronger Yuan-dollar

[78] From July 2005 until April 2008, China's non-gold reserves grew by an additional $1,022.4 billion.
[79] If all prices in an economy are completely flexible, currency devaluation would not change relative prices. However, in a "sticky price" environment, devaluation does have real effects. See Robert W. Staiger and Alan O. Sykes, *'Currency Manipulation' and World Trade*, Stanford University Law and Economics Olin Working Paper No. 363 (June 2008).
[80] Staiger and Sykes acknowledge that export subsidies have real effects, but claim that devaluation does not subsidize the devaluating country's exports when producers invoice in their own currency. However they also indicate even if producers invoice in their own currency, prices of the devaluating countries' products become more competitive in export markets. This suggests that the exporters from the devaluating country will benefit from higher demand in subsequent periods.
[81] Huang at 229.
[82] These reserve statistics exclude gold. Data are from the International Monetary Fund, via Haver Analytics.
[83] Huang at 229.

exchange rate prevailing since July 2005 had begun to affect the growth of China's trade surplus and reduce exporter profits.[84]

Thus, while U.S. petitioners have been unable to meet the requirements for initiating a subsidies investigation of China's currency policy, there is strong evidence that China purchases dollars to prevent or limit the appreciation of its currency, and that China's weak Yuan stimulates exports above levels that would prevail were China's currency not fixed at an artificially weak level.

Chinese labor and environmental practices have also been criticized for providing Chinese firms with a competitive advantage akin to a subsidy. China has not yet ratified the International Labor Organization's conventions on collective bargaining and freedom of association. Moreover, Chinese firms face lower expenses related to healthcare, social security-type programs, and safety than companies with production in advanced economies.[85] Reports indicate that there are up to 20 million children participating in China's workforce and 6 million people forced to work in prison labor camps.[86] An analysis by the firm Verité found that excessive overtime was rampant at export-oriented factories in China, as was the failure to pay legal overtime wages.[87] There are many organizations dedicated to documenting, and reversing, such shortcomings of China's

[84] "China Focus: Yuan yet to see equilibrium after 21-pct rise exactly 3 years after revaluation," Xinhua News Agency (July 21, 2008). "The exchange reform would no doubt promote the country's economic restructuring, or the industrial upgrading and a shift from the heavy reliance on resources and energies for growth. But exporters suffered as less orders came in and profit margins were squeezed." "However, economists agreed the country's current exchange policy was appropriate in addressing the imbalance of international payments, and measures had been effective, as seen from the decelerating trade surplus."
[85] Eurofer Report at 152.
[86] Anya Sostek, "AFL-CIO says China's trade policies hurt U.S. jobs," *Pittsburgh Post-Gazette* (June 10, 2006)
[87] *Excessive Overtime in Chinese Supplier Factories: Causes, Impacts, and Recommendations for Action* Verité Research Paper (September 2004) at 4 and 16.

labor market.[88] Subsequent corporate investigations have corroborated some of the specific allegations made by these groups.[89]

All things equal, labor practices in China reduce labor costs for firms operating in China. Increasing the supply of labor in China by 26 million (*i.e.*, the sum of chilled and prison labor) would likely lead to higher wages for remaining workers and, therefore, higher marginal costs for China's exporters. Wages would also rise if China's labor laws regarding overtime hours and pay were strictly enforced. Labor costs in China would still remain well below labor costs in advanced industrial countries, but higher costs would price some exports out of foreign markets. Indeed, higher labor costs that resulted from recent labor reforms in China are believed to have contributed to reduced profits at exporters and to factory closures in China.[90]

As such, weak enforcement of labor laws in China provides a benefit to exporters in the form of lower costs for labor inputs, just like below market electricity rates provide a benefit to manufacturers. However, it would be very difficult for any petitioner to establish this subsidy as financial contribution by the government of China that is specific in fact or in law.

A similar analysis applies to environmental standards. The economic rationale for environmental laws and standards is that the market alone does not value the environment properly because industrial polluters do not bear the full social cost of their pollution. If the *marginal external cost* due to excessive pollution in China were included in a firm's

[88] China Labor Watch and the China Labour Bulletin are two such organizations.
[89] Craig Simons, "New labor movement afoot in China," China Labor Watch (February 04, 2007) at http://www.chinalaborwatch.org/2-12-2007NewLaborMovement.htm.
[90] "Yuan yet to see equilibrium."

marginal cost, it would produce less of the product causing pollution.[91] Advanced countries have imposed standards and other measures, such as fees and tradable permits, to correct for this negative externality. Regardless of which mechanism is chosen, the cost of production generally rises.

In China's case, there are numerous examples demonstrating that the country has not undertaken adequate pollution abatement measures, though this has begun to change. A recent World Bank Report on China described the situation as follows:

> In China, well over half the major lakes are severely polluted; only 38 percent of river water is drinkable; only 20 percent of the population has access to unpolluted drinking water; and almost a quarter of the people regularly drink water that is heavily polluted ("China: Water Shortage" 2006). Waste disposal is a serious source of water pollution, and the countryside suffers from the leaching of nitrates into groundwater.[92]

Air pollution in China is similarly awful. According to a joint study conducted by the World Bank and the Chinese State EPA, 750,000 deaths in China are attributable to respiratory diseases. An according to EU standards, only one percent of China's urban population breathes safe air.[93]

By either not applying existing regulations, or failing to develop regulations that would limit pollution at a cost to domestic industries, the Chinese government has conferred a benefit to manufacturers in China. The benefit can be viewed as an income support, because the government's policy increases profit at any given market price. But as with the benefit resulting from lax enforcement of labor standards, the benefit conferred by China's lax environmental standards does not appear to be specific in law or in fact under WTO rules.

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[91] Robert S. Pindyck and Daniel L. Rubinfeld, *Microeconomics*, 6th edition (2006) at 642-43.
[92] L. Alan Winters and Shahid Yusuf, eds., *Dancing with Giants: China, India and the Global Economy* (World Bank, 2007) at 25.
[93] Yiyi Lu, "The Poison infecting China," *Times Online* (July 14, 2008).

Part II: Valuation of Chinese Subsidies to Absolute Control and Heavyweight Industries

Introduction

Part II examines the nature and scale of Chinese subsidies to strategic and heavyweight industries. The analysis for each industry focuses on one or two companies who list shares on the Hong Kong Stock Exchange. For each company, there is a brief summary of the firm, its ownership structure, and any relevant international and strategic dimensions. There is also an explanation of all the subsidies described in each firm's annual financial report to investors. The subsidies are presented in a table along with a subsidy rate which is equal to the total value of the firms subsidies divided by its sales.[94]

Part II concludes with a discussion of any identifiable patterns in state support for these industries.

Analysis of Strategic Subsidiaries

Armaments

Avichina Industry and Technology Company Limited ("AviChina")

AviChina is a Chinese producer of automotive and aerospace products, including mini-size cars, low-emission sedans, automotive engines, helicopters, general purpose aircraft, and regional jets.[95] As of 2007, the group held stakes in two joint ventures producing automotive engines, one with Suzuki and one with Mitsubishi.[96] Both Japanese firms have technology transfer agreements with AviChina.[97] Its joint venture

[94] As the tables in Part II may include subsides from different years, the subsidy rate in the individual tables is not comparable to the subsidy rates calculated by the Department of Commerce.
[95] AviChina Industry and Technology Company Limited Annual Report for 2007 (hereafter, "AviChina 2007 AR") at 2. In 2007, aerospace products accounted for approximately 30 percent of the group's sales.
[96] *Id.* at 2.
[97] *Id.* at 33-34.

with the Italian firm Agusta produces helicopters, while its venture with Embraer-Empresa Brasileira de Aeronautica S.A. produces regional jets.[98] AviChina subsidiaries Hongdu Aviation, Harbin Aviation, and Changhe Aviation are also known to produce military aircraft.[99]

AviChina shares are traded in Hong Kong. The group's principal domestic shareholders are AVIC II, a state-owned aviation corporation, and the GOC's asset management firms China Hua Rong Asset Management Corporation, China Cinda Asset Management Corporation, and China Orient Asset Management.[100] AVIC II owns 95.66 percent of AviChina's domestic shares.[101] The European Aeronautics Defence and Space Company, which owns Airbus, is the primary shareholder of AviChina's H shares in Hong Kong.

AVIC II is one of China's two major manufacturers of civilian and military aircraft. It was formed in 1999 when the former China Aviation Industry Corp. was split into AVIC I and AVIC II.[102] This breakup was part of a major reorganization of China's five arms companies into ten enterprise groups in order to foster competition and limit financial losses.[103] AVIC I focuses on large and medium sized aircraft, while AVIC II focuses largely on smaller aircraft and helicopters.[104] According to recent press reports, the Chinese government is strongly considering a re-merger of the two state-owned

[98] *Id.* at 2.
[99] Evan S. Medeiros, Roger Cliff, Keith Crane, and James C. Mulvenon, *A New Direction for China's Defense Industry* (hereafter, "RAND Report") (RAND, 2005) at 156-157.
[100] AviChina 2007 AR at 2.
[101] *Id.* at 31.
[102] Lu Haoting and Xu Dashan, "AVIC I & II closer to merger," *China Daily* (June 18, 2008) at http://www.chinadaily.com.cn/china/2008-06/18/content_6772516.htm.
[103] Eamon Surry, *An Estimate of the Value of Chinese Arms Production*, Research note presented at the 11th Annual Conference on Economics and Security, University of the West of England (July 2007) at 3.
[104] "Aviation Industries of China II (AVIC-II)," http://www.globalsecurity.org/military/world/china/avic2.htm.

aviation entities in order to pool research and manufacturing resources and close the gap with Western aviation firms.[105]

AviChina is increasing its manufacturing work for both Airbus and Boeing. Two of AviChina's subsidiaries have entered into a joint venture with Airbus China Co. to set up a final assembly line in Tianjin for the Airbus A320 series.[106] Parent company AVIC II and Airbus have agreed to establish a composite material manufacturing center to produce composite parts and components for Airbus' A350XWB wide body aircraft. AviChina subsidiary Hongdu Aviation entered into a sub-contracting agreement with U.S Goodrich Corporation to produce engine parts and components for the Boeing 787 aircraft for the period from 2008 to 2021.

Total estimated subsidies to AviChina: RMB 435.0 million ($57.2 million)

AviChina's annual report for 2007 indicates that it benefits from government grants, preferential interest rates, preferential tax rates, and the provision of land at no cost. The largest subsidy is listed as a deferred income related to government grants. This amount, RMB 150 million, is money that the government provided AviChina in the past for the purchase of property, plant, and equipment ("PP&E"). This amount is being amortized over time, including RMB 33.1 million in 2007. The RMB 17.7 million deferred income grant reflects moneys that have been provided by the government to pay for non-PP&E expenses to be undertaken within the next year.

There are four lending related grants. The RMB 33 million government interest subsidy is not explained, but appears to indicate that a central or local government entity is paying some of the bank interest owed by the firm. AviChina's 2007 annual report

[105] Lu Haoting and Xu Dashan.
[106] AviChina 2007 AR at 7.

also lists RMB 160 million as being borrowed from non-bank entities at a weighted average interest rate of 0.07 percent. This preferential rate is 6.32 percent lower than the interest rates paid by the firm to banks, which saved AviChina approximately RMB 10 million. AviChina has RBM 5.2 billion in outstanding loans from government-owned banks. The Department of Commerce has found government-owned banks provide loans to favored firms at below market rates. The subsidy rates for this program have been, on average, 0.78 percent of sales.[107] Applying this rate to AviChina's sales implies a benefit worth RMB 119 million. Finally, nearly RMB 500 million in AviChina's borrowings are guaranteed by its state-owned parent and other related subsidiaries. These guarantees further reduce AviChina's cost of borrowing by lowering the interest rates that independent lenders would charge the company were it not for the government guarantees.

Other potential subsidies related to those found by the Department of Commerce include the provision of land for less than adequate remuneration and tax-related benefits. AviChina's annual report clearly states that some of its facilities operate on land provided free of charge by its government-owned parent. In three of the subsidy investigations where this program was found to be used, the average subsidy rate was 0.85 percent.[108] Applying this rate to AviChina's sales yields an estimated benefit of RMB 44 million. AviChina's annual report lists a refund of real estate VAT for RMB 3.6 million. It is not clear whether this refund represents a subsidy, but the Department has countervailed VAT related subsidies granted to ten companies. AviChina's annual report refers to low

[107] This average excludes the AFA rate on Guangdong Guanhao High-Tech, a Chinese producer of light-weight thermal paper.

[108] This average subsidy rate excludes the rate of Zibo Aifudi Plastic, a Chinese producer of laminated woven sacks.

interest rates provided to certain subsidiaries of the company. The standard corporate tax rate through 2007 was 33 percent, 30 percent for the central government and the remainder for sub-national governments. AviChina acknowledges that some of its subsidiaries faced tax rates ranging from 7.5 to 15 percent. Applying information from the firm's 2005 report, it appears that this benefit saved the firm approximately RMB 24 million.

Table 9. Valuation of subsidies to AviChina, 2007

Item	RMB Mil.	Source	Page
Government grants (available)	167.6	2007 AR	54, 109
Government grants (amortized)	33.2		82
Government interest subsidies	33.2		121
Preferential lending	129.3		14, 114
Refund of value added tax	3.7		80
Preferential tax rates	23.9		84
Land granted for use at no cost by SOE	44.0		94
Total subsidies	435.0		
Net income	-488.3		
Revenues	16,540.6		
Subsidy in UDS Mil.	57.2		
Subsidy rate	2.6%		

China Aerospace International Holdings Ltd. ("CASIL")

Through its subsidiaries, CASIL engages in hi-tech manufacturing and developing science and technology park complexes.[109] The firm is also a holding company for investments in complex properties and high-tech industries.[110] Among CASIL high tech products are plastic products, intelligent chargers, liquid crystal display and printed circuit boards.[111] According to its 2007 annual report, CASIL wholly owns seven firms on the mainland that are registered as wholly foreign-owned entities in China.[112] It also

[109] China Aerospace International Holdings Ltd. Annual Report for 2007 (hereafter, "CASIL 2007 AR") at 3.
[110] *Id.* at 6.
[111] *Id.* at 3.
[112] *Id.* at 89.

owns at least 80 percent of five Sino-foreign joint ventures in China and 30 percent of several other entities with operations in China or Hong Kong.[113]

CASIL is not listed on any mainland stock exchange, but is listed only on the Hong Kong Stock Exchange.[114] CASIL's largest shareholder is the China Aerospace Science & Technology Corporation ("CASC"), which is a holding company owned by the central government SASAC.[115] However, CASC does not own these shares directly. As of yearend 2007, Jetcote Investments Limited owned 42.53 percent of CASIL, 5.13 percent directly and 37.4 percent through two wholly owned investment companies. Jetcote, for its part, is 100 percent owned by CASC. Thus, CASC officially owns 42.53 percent of CASIL. In addition to its ownership stake, CASC provided a large loan to CASIL, assisted it financially with a profitable swaps agreement, and strongly supports the company's development of civilian technology parks.[116]

According to RAND, CASC controls research and production entities encompassing multiple research institutes, production facilities, and companies.[117] CASC's subsidiaries produce ballistic missiles, space launch vehicles, satellites, manned spacecraft, and civilian products.[118] CASC, along with the China Aerospace and Industry Group Corporation ("CASIC"), are the two main players in China's missile industry, and the market environment between them is one of "managed competition" in which the two conglomerates manage the flow of capital among their respective subsidiaries.[119] The

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[113] *Id.* at 89-90.
[114] *Id.* at 37.
[115] *Id.* at 27.
[116] *Id.* 3-5, 32 and 72.
[117] RAND Report at 53. The state-owned China Aerospace Corporation was created in 1993 when the government transformed China's Ministry of Aerospace into a state-owned corporate entity. CASC and CASIC trace their formation to the breakup of the China Aerospace Corporation in 1999.
[118] *Id.*
[119] *Id.* at 52, 73, and 75.

non-defense subsidiaries of CASC and CASIC are believed to be financially self-sufficient, unlike the two groups' missile producing subsidiaries. The non-defense entities are believed to enhance the level of technical expertise in China's missile industry and to facilitate the flow of information.[120] CASC and CASIC have generally aimed to separate the management and production of military goods from the management and production of civilian goods.[121] CASIL, the Hong Kong listed subsidiary, is clearly a civilian company. However, there has been an increased willingness by the two missile conglomerates to allow civilian subsidiaries to enter into military-related production. There is some indication that CASC and CASIC believe that such entry would help introduce the dynamism of the commercial sector into the military sector, or, at the very least, would earn profits for the holding companies that could offset losses of their military-oriented subsidiaries.[122] CASIL contributed HK$310 million to its equity holders in 2007, which implies investment earnings of HK$131.8 million (US$16.9 million) for CASC.

Total estimated subsidies to CASIL: HK$99.7 million ($12.8 million)

CASIL received assets from its state-owned parent at less than adequate remuneration, concessionary tax rates on certain subsidiaries, and benefitted from debt forgiveness and preferential lending in conjunction with inflated interest rates from certain bank deposits.

CASIL earned a profit of HK$ 28.9 million under an asset swap agreement with its CASC, its SOE parent. According to CASIL, the agreement between the two firms originated in 2006. CASIL acquired the equity interest in a firm that turned around and

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[120] *Id.* at 74.
[121] *Id.* at 99-100.
[122] *Id.* at 100.

sold its property for a profit by the end of 2007.[123] The acquisition transaction, explained in CASIL's 2006 annual report,[124] indicates that CASIL acquired a 79.25 percent interest in a Canadian company and a 100 percent interest in a profitable Chinese company; forgiveness of an HK$ 80 million debt owed to CASC, and HK$ 14.9 million in cash from CASC. Moreover, the purchase price of the assets purchased was discounted by HK$ 21.6 million. In exchange, CASIL provided CASC a portfolio of loans whose *book* value, not market value, was HK$ 187.8 million. Because the profit of HK$ 28.9 million results, in part, from the discount of HK$ 21.6 million cited above, the latter amount is not being treated as a subsidy. However, because it is highly unlikely that the market value of the loan portfolio is equal to the book value, the HK$14.6 million cash paid by CASC to CASIL is being treated as a grant.[125]

CASIL acknowledges that certain of its subsidiaries "are entitled to exemption from income tax under tax holidays and concessions." Although its annual report does not spell out the value of these rates, other information suggests that the companies saved HK$ 14.4 million.[126]

CASIL also borrows at preferential interest rates. Its annual report indicates that it currently has a 4-year mortgage loan secured by bank deposits. The secured loans have interest rates of 1.25 percent, while the firm earned interest on its deposits ranging from 3.6 percent to 4.5 percent. Another liability, a loan from a non-wholly owned subsidiary, has an interest rate of zero. CASIL appears to have no other outstanding bank loans

[123] CASIL 2007 AR at 5.
[124] CASIL 2006 AR at 70-71.
[125] This is justified because China's non-performing loan ratio by year end 2006 was 7.1 percent. See "CHINA'S BANKS REDUCE NPL RATIO FALLS TO 7.09" *AsiaInfo Services* (2007). HighBeam Research. 9 Jan. 2009 <http://www.highbeam.com>.
[126] CASIL 2007 AR at 62-63.

subject to market interest rates. However, in 2006, it had loans bearing a rate of 7.22 percent. Applying the average subsidy rate of 0.78% of sales to CASIL implies a subsidy of HK$13.1 million.

In 2005, CASIL was experiencing financial difficulties due in part to the market's shift away from cathode ray tube television screens.[127] As part of its restructuring, the Bank of China in Hong Kong waived CASIL's debt of HK$ 176 million in 2005.[128] The value of this subsidy was estimated using the average Chinese long-term interest rate in 2005, assuming payoff over 5 years. The forgiveness of CASIL's debt thus provided an estimated benefit of HK$ 28.7 million in 2007.

Table 10. Valuation of subsidies to CASIL, 2007

<table>
<tr><th>Item</th><th>HK$ Mil.</th><th>Source</th><th>Page</th></tr>
<tr><td>Government Grant</td><td>14.6</td><td>2006 AR</td><td>70-71</td></tr>
<tr><td>Provision assets for less than adequate remuneration</td><td>28.8</td><td rowspan="2">2007 AR</td><td>5</td></tr>
<tr><td>Preferential lending</td><td>13.1</td><td>10, 74, 84</td></tr>
<tr><td>Debt foregiveness</td><td>28.7</td><td>2005 AR</td><td>4</td></tr>
<tr><td>Concessionary tax rates</td><td>14.4</td><td>2007 AR</td><td>62-63</td></tr>
<tr><td>Total subsidies</td><td>99.7</td><td></td><td></td></tr>
<tr><td>Net income</td><td>310.4</td><td></td><td></td></tr>
<tr><td>Revenues</td><td>1,681.9</td><td></td><td></td></tr>
<tr><td>Subsidy in UDS Mil.</td><td>12.8</td><td></td><td></td></tr>
<tr><td>Subsidy rate</td><td>5.9%</td><td></td><td></td></tr>
</table>

Power Generation and Distribution

Huaneng Power International, Inc. ("HPI")

One of the China's largest listed power producers, HPI is engaged in developing, constructing, operating and managing large-scale power plants throughout China. As of March 2008, the company wholly-owned 16 operating power plants, had controlling

[127] CASIL 2005 AR at 3.
[128] CASIL 2007 AR at 4.

interests in 13 operating power plants, and had minority interests in 5 operating power companies located in 12 provinces and two municipalities in China.[129]

HPI's ownership structure is even more complicated than those of the other listed firms covered in this report. Huaneng International Power Development Corporation ("HIPDC") directly owns 42.3 percent of HPI. The Huaneng Group, which is 100 percent owned by the central government SASAC, directly owns 8.75 percent of HPI. Public shareholders own the remaining 49.22 percent of HPI shares.[130] However, HIPDC is itself largely government-owned. The SASAC-owned Huafeng Group owns 51.98 percent of HIPDC directly and 5 percent indirectly, and the other owners have direct or indirect ties to the central or provincial governments.[131] As a result, the SASAC-owned Huaneng Group is considered HPI's ultimate parent company.[132] The public shares of HPI are listed in the stock exchanges of New York, Hong Kong, and Shanghai.[133]

Although the government appears to be moving toward a power market with greater levels of competition, it currently still regulates electricity tariffs.[134] According to HPI, "the government is responsible to regulate and supervise power tariffs in light of the principles of efficiency, incentives, and investment encouragement and <u>taking into consideration of (*sic*) affordability</u>."[135] (Emphasis added.) With coal prices currently high, HPI and other utilities in China have seen dramatic increases in their input prices

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[129] Huaneng Power International, Inc. Annual Report for 2007 (hereafter, "HPI 2007 AR") at 2.
[130] Huaneng Power International, Inc. Annual Report on Form 20-F for 2007 (herafter, HPI 2007 form 20-F) at 16.
[131] *Id.*
[132] HPI 2007 AR at 251.
[133] *Id.* at 86.
[134] HPI 2007 form 20-F at 2 and 11.
[135] *Id.* at 11. See also, "We believe Huaneng's coal troubles will abate during the next two years," *Morningstar®* (hereafter, "Coal troubles") (August 14, 2008) at 1.

while the government has been slow to increase electricity prices. As a result, the firm's profitability declined in 2007 and is expected to plummet in 2008.[136]

Total estimated subsidies to HPI: RMB 1,953.6 million ($256.9 million)

HPI is a foreign invested firm as nearly half of its shares are foreign-owned. Such foreign investment makes HPI eligible for significant tax-related benefits. HPI's annual report for 2007 also indicates that the firm has received grants to pay for certain investments, tax credits for purchasing Chinese-made products instead of imports, and preferential interest rates.

Since January 1999, Sino-foreign enterprises investing in energy and transportation infrastructure businesses have been subject to a reduced income tax rate of 15 percent, half the normal rate. HPI states that it has applied this rule to all of its fully owned operating power plants. The value of this subsidy is equal to the statutory tax rate of 30 percent minus the weighted average statutory rate, which HPI estimates to be about 18 percent. Based on these figures, the benefit of this program is RMB 876 million.[137] Also, certain HPI power plants owned by the firm are exempted from income tax for two years starting from the first profit-making year (after offsetting all tax losses carried forward from the previous years), followed by a 50 percent reduction of the applicable tax rate for the next three years. HPI estimates that these tax benefits amounted to a tax savings of RMB 282 million.[138] The firm's status as a foreign invested enterprise also

[136] "Coal Troubles" at 2.
[137] HPI 2007 AR 163.
[138] *Id.* 183.

entitles it to exemptions from certain sales tax surcharges. The benefit from this program was at least RMB 8 million.[139]

HPI has also reduced its tax burden through its purchases of domestically-manufactured equipment. The income tax credit is 40 percent of the amount spent on the domestically-manufactured equipment. HPI made purchased equipment in 2006 and has deferred income tax assets of RMB 126 million that it can use to reduce taxes in future years. HPI used this program in 2007 to reduce its taxes by RMB 167 million.[140]

In addition to favorable tax rates, HPI received government grants to pay for the construction of desulphurization equipment. HPI and its subsidiaries list government grant "liabilities" of RMB423 million; an additional RMB14.57 million in government grants was credited to HPI's 2007 income statement.[141]

HPI's annual report also identifies loans at interest rates as low as 2 percent, indicating the presence of preferential lending.[142] Applying the average subsidy rate applied to Chinese firms in the Department's investigations yields a subsidy amount of RMB 183 million.

In addition to these subsidies whose value are readily apparent are other subsidies whose value is less transparent. According to HPI's form SEC form 20-F, the Chinese government participates in annual price setting meetings between coal users and coal buyers, and retains the ability to regulate coal prices if needed. It is unclear how large a

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[139] *Id.* at 20. The full value of this benefit is unknown, but likely much larger. The RMB 8 million estimate represents only the decrease in the cost of such taxes in 2007 compared to 2006.
[140] *Id.* at 230 and 238.
[141] *Id.* at 155.
[142] *Id.* at 27, 227-228.

benefit this program confers, but whatever that value is, it is likely eroded by government efforts to limit energy prices in China.[143]

Table 11. Valuation of subsidies to HPI, 2007

Item	RMB Mil.	Source	Page
Government grants (available)	423.0	2007 AR	155
Government grants (current costs)	14.6		
Exemption from certain tax surcharges by FIEs	8.0		20
Preferential interest rates	183.2		27, 227-228
Concessionary tax rates (tax holiday)	282.0		111, 163
Reduced statutory rate	876.1		
Income tax credit due to purchase of domestically manufactured equipment	166.7		238
Total subsidies	1,953.6		
Net income	5,614.3		
Revenues	23,433.6		
Subsidy in UDS Mil.	256.9		
Subsidy rate	8.3%		

Oil and Petrochemicals

PetroChina Co. Ltd. ("PetroChina")

Created in 1999 during a restructuring of the state-owned China National Petroleum Company ("CNPC"), PetroChina is a vertically integrated conglomerate that engages in a broad range of petroleum and gas related activities.[144] The PetroChina group of companies is one of the largest Chinese firms and one of the world's largest oil companies.[145] Indeed, the firm was briefly the world's largest in terms of market value when it's "A" shares tripled in value on their first day of trading.

[143] HPI 20-F 2007 at 14-15

[144] PetroChina Co. Ltd. Annual Report for 2007 (hereafter, "PetroChina 2007 AR") at 2. These activities include the exploration, development, production and sales of crude oil and natural gas; the refining, transportation, storage and marketing of crude oil and petroleum products; the production and sales of basic petrochemical products, derivative chemical products and other chemical products; and the transmission of natural gas, crude oil and refined products; and the sales of natural gas.

[145] *Id.* at 2.

PetroChina "H" shares have been listed on the Hong Kong Stock Exchange, while so-called "A" shares are listed on the Shanghai Stock Exchange. American Depository Shares are listed on the New York Stock Exchange. Despite these listings, PetroChina is largely state-owned, with CNPC owning 86.29 percent of the company as of yearend 2007.[146] A significant number of shares are owned by Chinese insurance companies and are subject to selling restrictions.[147]

Like other Chinese petroleum conglomerates, PetroChina has been expanding its control over energy resources by expanding aggressively beyond China's borders. According to its Interim Report for 2008, the firm's strategic objective is to become "an international petroleum company with significant oil assets both onshore and offshore as well as in both the PRC and international markets."[148] To date, these activities are largely aimed at supplying energy to China, not foreign markets. For example, 96.7 percent of PetroChina's revenues from external customers resulted from sales within China. In contrast, PetroChina's overseas assets are expanding at a faster rate (39 percent) than domestically-owned assets (20.8 percent) as the firm moves to secure raw materials for China.[149] CNPC Exploration & Development, jointly owned by PetroChina and its parent, CNPC, has expanded in recent years and now operates 71 oil and gas projects in 26 countries across Africa, Central Asia, Russia, the Middle East, South America, and the Asia-Pacific region.[150]

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[146] *Id.* at 13.
[147] *Id.* at 12.
[148] PetroChina Co. Ltd. Interim Report for 2008 (hereafter, "PetroChem 2008 IR") at 21.
[149] PetroChina 2007 AR at 38.
[150] Yang Yue, "PetroChina Agrees to Deal for Overseas Oil," *Cajing.com*. PetroChina is in the process of buying the remaining shares of CNPC E&D it does not already own. See also, "ADR Flash: PTR" 1H08 Results a Heavy Burden to Carry," *Citigroup Investment Research* (August 28, 2008).

Total estimated subsidies to PetroChina: RMB 37,476.7 million ($4,927.4 million)

PetroChina benefits from a host of tax preferences that are contingent on location. The firm also receives government grants to support investments in plant and equipment, loan guarantees from its state-owned parent at no cost, and preferential loans, including loans with no interest rate. PetroChina has also received certain assets at below-market prices.

According to PetroChina's annual report for 2007, the firm benefits from at least four programs that reduce taxes owed:[151]

- Tax Policies Related to the Great Development of the Western China;
- Tax Preferential Policies for Reviving the Northeast Old Industry Base of China;
- Basis of Asset Depreciation and Amortization in the Northeast Old Industry Base of China;
- Expanding the Deduction Scope of VAT in the Northeast Area of China.

The value of these programs to PetroChina is spelled out in its annual report. Income tax savings resulting from preferential rates amount to RMB 16,930 million.[152] The VAT deduction program, which allows for the deduction of VAT included in the purchased fixed assets, goods or taxable services certain investment-related expenditures, resulted in a benefit of RMB 12,133 million.[153]

Government grants appear as liabilities on the PetroChina's balance sheet and income statement. Seven hundred seventy-four million renminbi represents grants

[151] PetroChina 2007 AR at 121 and 196.
[152] *Id.* at 196.
[153] *Id.* at 139.

payable,[154] which likely represents amounts received or due from the government that will be amortized over time. In addition, a grant of RMB 1,110 million is included as other income.[155] The purpose of this grant is not explained, but the government of China is known to provide subsidies to offset the cost of government price controls on gasoline retailers.[156]

PetroChina has significant financial activities with its state-owned parent, CNPC, and other related companies. According to PetroChina, it benefits from no-cost loan guarantees from CNPC on RMB 498 million in loans.[157] A guarantee rate of 0.5 percent, the base rate used by the U.S. government's Overseas Private Investment Corporation, implies a benefit of RMB 2 million. PetroChina borrows substantial sums from related companies and state-owned banks at rates that are frequently below the prime rate set by China's central bank.[158] These low rates are available to PetroChina even though its bank borrowings are unsecured by any of its assets. The firm's annual report for 2007 also indicates that PetroChina receives interest free loans.[159]   Based on the average of subsidy rates for preferential lending in U.S. subsidy cases involving China, the estimated value of PetroChina's below-market loans is RMB 6,527 million.

Three other subsidies received by PetroChina have not been valued because data are not available. First, PetroChina reports that in 2007 CNPC assigned all of its rights and obligations under seven production sharing contracts to PetroChina at nil

[154] *Id.* at 97.
[155] *Id.* at 152.
[156] Joe McDonald, "PetroChina 1Q profit falls 31.5 percent on heavy refining losses due to price controls," *AP Worldstream* (April 28, 2008).
[157] PetroChina 2007 AR at 49.
[158] *Id.* at 45 and 213-216.
[159] *Id.* at 216

consideration (i.e., for free).[160] Second, CNPC has granted PetroChina the exclusive right to use certain trademarks, patents, know-how, and computer software of CNPC at no cost.[161] These transfers amount to provisions of assets at less than adequate remuneration. While the Department of Commerce has countervailed the provision of land for less than adequate remuneration, it has not yet, as of the time of this writing, countervailed the provision of other assets at below-market rates. Third, many purchases made by PetroChina from its parent company are subject to a so-called Comprehensive Agreement. This agreement details specific pricing principles for certain products and services, providing an avenue for the government to provide a variety of goods and services at below market rates.[162]

[160] *Id.* at 48.
[161] *Id.* These intellectual property rights relate to the assets and businesses of CNPC transferred to the PetroChina as part of the 1999 restructuring that gave rise to PetroChina.
[162] *Id.* At 46.

Table 12. Valuation of subsidies to PetroChina, 2007

Item	RMB Mil.	Source	Page
Government grants (liability)	774.0	2007 AR	97
Government grants (current)	1,110.0		152
Preferential lending rates	6,527.2		213-216
Preferential rates for investing in western China			121, 196
Accelerated depreciation & amortization for investments in Northeast China			
Preferential rates for East-West Pipeline Project	16,930.0		
Deduction of input VAT on purchases of fixed assets	12,133.0		139
Loan guarantee at no cost	2.5		49
Provision of assets at less than adequate remuneration	Unknown		48
Provision of IP assets at no cost	Unknown		48
Total subsidies	37,476.7		
Net income	5,614.3		
Revenues	835,037.0		
Subsidy in UDS Mil.	4,927.4		
Subsidy rate	4.5%		

China BlueChemical Ltd. ("BlueChem")

Headquartered in Hainan Province, BlueChem develops, produces and sells mineral fertilizers and chemical products.[163] It is China's main producer of methanol and urea and is entering the so-called coal chemical industry, which produces chemicals using coal as a feedstock instead of more expensive natural gas.[164] The firm controls nine subsidiaries in businesses ranging from the production and sale of plastic bags to transportation services to port operation.[165]

[163] China BlueChem Ltd. Annual Report for 2007 (hereafter, "BlueChem 2007 AR").
[164] *Id.* at 5.
[165] *Id.* at 84.

BlueChem was established in China as CNOOC Chemical Limited in July 2000, and changed its name in April 2006.[166] It listed in the Hong Kong Exchange in September 2006. BlueChem's parent company is the China National Offshore Oil Corporation ("CNOOC"), China's third largest energy company. As of yearend 2007, 38 percent of its shares were privately held and 59 percent were held by CNOOC. The remainder of the firm's shares is held by three other Chinese state-owned entities and by Transammonia, the world's largest private fertilizer and fertilizer raw materials merchandising and trading company.[167] Transammonia is a significant importer of fertilizers and other products to the U.S. market.

Currently, BlueChem is focused on serving the Chinese market. In 2007, only five percent of its sales were exports.[168] However, this may be changing, as the firm's exports tripled from year earlier levels and it is currently in the throes of a major capacity expansion.[169]

Total estimated subsidies to BlueChem: RMB 1,707.4 million ($224.6 million)

According to BlueChem, "strong support towards agriculture and overall concessionary schemes offered by the PRC government to mineral fertilizers sector promoted the development of the PRC mineral fertilizers sector."[170] Specifically, "the mineral fertilisers enterprises continue to enjoy government-sanctioned concessionary schemes, such as VAT exemptions for urea producers, rate freeze for natural gas consumption for urea production purposes and concessionary rates offered in the areas of

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[166] *Id.* at 46.
[167] *Id.* at 95. In addition, approximately 160 million BlueChem shares have been transferred from CNOOC to China's National Council of the Social Security Fund.
[168] *Id.* at 66.
[169] *Id.* at 5 and 66.
[170] *Id.* at 6.

electricity supply and transportation."[171] BlueChem also benefits from a variety concessionary tax rates for foreign and domestic investors, government grants, preferential lending, debt forgiveness, and the provision of assets for less than adequate remuneration.

The tax programs that benefit BlueChem provide preferential tax rates to:

- Entities registered in Hainan province or Pudong New Area, Shanghai;
- Foreign invested firms, firms with new investments in Hainan Province, and firms that convert to production based on natural gas as opposed to oil (two full, three half program);
- High technology enterprises;
- Firms engaged in infrastructure development and operation.

These programs reduced BlueChem's 2007 tax bill by RMB 414 million in 2007.[172] BlueChem is a producer of urea, and also benefits from exemption of VAT for urea producers. The government's rebate of VAT payments already made is often accomplished well after the actual transactions take place. Although there were no such rebates in 2007, the rebate in 2006, which covered 2004 and the first half of 2005, amounted to RMB 89 million.[173]

Government grants to BlueChem appear as long-term liabilities. RMB 35.5 million were received by subsidiary Hainan Basuo from the Ministry of Communications for future renovation of the subsidiary's port facilities. In all, BlueChem received RMB 44 million in government grants.[174]

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[171] *Id.* at 13.
[172] *Id.* at 75.
[173] *Id.* at 11.
[174] *Id.* at 102.

By its own admission, BlueChem has purchased natural gas at prices below world levels. The value of this benefit is unknown, though it is likely very large because the natural gas used as a feedstock in the production of fertilizers represents a major proportion of total fertilizer costs. To offset this massive benefit, which creates a huge wedge between Chinese and world fertilizer prices, and to prevent too much subsidized fertilizer from leaving the China, the Chinese government applies a hefty export tax to fertilizers.[175] The combination of subsidies on natural gas purchases and export restrictions ensures that Chinese agriculture enjoys a substantial competitive benefit.

BlueChem also received substantial benefits related to its purchase of the chemical producer Tianye. In 2006, BlueChem purchased 90 percent of Tianye, but one of the sellers, the SASAC of the government of the Inner Mongolia Autonomous Region, transferred its equity at no cost.[176] This benefit amounted to approximately RMB 108 million. Tianye had an outstanding liability on a loan owed to the Export-Import Bank of China. As part of BlueChem's acquisition of Tianye, the amount due to the Export-Import Bank was assumed by the Finance Bureau of the Inner Mongolia Autonomous Region, which subsequently reduced the amount owed by RMB 1,019 million.[177]

BlueChem also benefits from preferential loans, though the benefit is provided in a roundabout fashion. In particular, it appears that BlueChem not only receives below market interest rates, but also did not submit certain interest payments due.[178] Applying

[175] Shiliang, Feng, "Economic functioning of the petroleum/chemical sector in August" *China Chemical Reporter*, China National Chemical Information Center (2008). Retrieved December 17, 2008 from HighBeam Research: http://www.highbeam.com/doc/1G1-187766028.html.
[176] BlueChem 2007 AR at 106.
[177] *Id.* at 107
[178] See, for instance, BlueChem 2007 AR at 44 67 and 100, indicating that some interest payments were not paid to banks, but were instead held by BlueChem as "pledged deposits."

the average subsidy rate on preferential lending applied by the Department of Commerce yields a subsidy estimate of RMB 34 million.

Table 13. Valuation of subsidies to BlueChem, 2007

<table>
<tr><th>Item</th><th>RMB Mil.</th><th>Source</th><th>Page</th></tr>
<tr><td>Government grants (available)</td><td>44.0</td><td rowspan="12">2007 AR</td><td>102</td></tr>
<tr><td>Preferential lending rates</td><td>33.9</td><td>102</td></tr>
<tr><td>Debt foregiveness (Tianye)</td><td>1,019.3</td><td>107</td></tr>
<tr><td>Preferential rates for entities registered in Hainan Province or Pudong New Area, Shanghai</td><td rowspan="6">413.8</td><td rowspan="6">75</td></tr>
<tr><td>Two-Full, Three-Half for investments in Hainan Province</td></tr>
<tr><td>Two-Full, Three-Half for FIEs</td></tr>
<tr><td>Two-Full, Three-Half for conversion to natural gas-based production</td></tr>
<tr><td>Preferential rates for high technology enterprises</td></tr>
<tr><td>Preferential rates for infrastructure development and operation</td></tr>
<tr><td>VAT rebate (on Urea?)</td><td>89.3</td><td>66</td></tr>
<tr><td>Provision of natural gas at less than remuneration</td><td>Unknown</td><td>13</td></tr>
<tr><td>Provision of assets for less than adequate remuneration (Tianye)</td><td>108.2</td><td>106</td></tr>
<tr><td>Total subsidies</td><td>1,708.4</td><td></td><td></td></tr>
<tr><td>Net income</td><td>1,546.5</td><td></td><td></td></tr>
<tr><td>Revenues</td><td>4,340.4</td><td></td><td></td></tr>
<tr><td>Subsidy in UDS Mil.</td><td>224.6</td><td></td><td></td></tr>
<tr><td>Subsidy rate</td><td>39.4%</td><td></td><td></td></tr>
</table>

Telecommunications

China Telecom Corporation Limited ("CTC")

CTC is the largest wire line telecommunications and broadband services provider in China and the world. As of yearend 2007, it had 220 million fixed line subscribers and 35 million broadband subscribers.[179]

[179] China Telecom Corporation Limited Annual Report for 2007 (hereafter, "CTC 2007 AR") at 4.

CTC is listed on the stock exchanges of Hong Kong and New York.[180] While CTC's shares are traded in two non-Chinese markets, the firm is primarily-owned by Chinese government-owned shareholders. As of December 2007, 82.85 percent of its shares are domestic shares while the remaining shares are either "H" shares traded in Hong Kong or ADS shares traded in New York.[181] The state-owned China Telecommunications Corporation ("China Telecom") owns 70.89 percent of CTC's shares, while other state-owned entities, such as Fujian State-owned Assets Investment Holdings Co., Ltd. and Guangdong Rising Assets Management Co., Ltd., own approximately 12 percent of CTC.[182]

According to its 2007 annual report, CTC was established in September 2002 as part of a major restructuring of China's domestic telecommunications industry, with service areas including Shanghai and the provinces of Guangdong, Jiangsu and Zhejiang. Two months later, the firm listed in New York and Hong Kong with an initial public offering worth $1.3 billion.[183] Over the next two years, CTC expanded its reach across China by acquiring 6 provincial telecoms in 2003 and another 10 in 2004, all from the government-owned China Telecom.[184] The second purchase was partially funded by the proceeds of a second share issuance.[185] In 2007, CTC purchased China Telecom (HK), China Telecom (Americas) and China Telecom System Integration from its government-owned parent for $1.4 billion.[186] China Telecom (HK) and China Telecom (Americas) provide leased line and related services including voice wholesale, international private

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[180] *Id.* at 4.
[181] *Id.*
[182] CTC 2007 AR at 198; and China Telecom Corporation Limited SEC Form 20-F for 2003 at 18.
[183] CTC 2007 AR at 5.
[184] *Id.* The total purchase price for the two sets of telecom firms was RMB 73.8 billion ($8.9 billion at then prevailing exchange rates).
[185] *Id.* at 123.
[186] *Id.* at 124.

network, cross-border transit connection and Internet data centers for multinational corporate customers in Asia-Pacific and North and South America, respectively.[187]

Total estimated subsidies to CTC: RMB 5,293 million ($696 million)

CTC's annual report includes information about preferential tax rates, tax credits for purchases of domestic equipment, and the provision of assets at less than adequate remuneration.

According to CTS's annual report, the firm receives preferential tax rates for investing in western China and in so-called special economic zones.[188] These preferences were valued at RMB 1,678 million in 2007.[189] Tax credits on the purchases of domestic equipment amounted to RMB 1,319 million in 2007, though CTC notes that these benefits will no longer be available from 2008 onwards.[190] The largest benefit acknowledged in CTC's annual report arose from the so-called *third acquisition agreement*, which included assets in Hong Kong and the United States. CTC paid RMB 1,480 million to acquire three firms with a net worth of RMB 3,776 million.[191] Accordingly, the subsidy is estimated as the difference between the amount paid and the net worth of the companies purchased in the acquisition.

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[187] *Id.* at 11 and 124.
[188] *Id.* at 35.
[189] *Id.* at 166.
[190] Id.
[191] *Id.* at 124-5.

Table 14. Valuation of subsidies to CTC, 2007

Item	RMB Mil.	Source	Page
Preferential rates for investing in SEZs and western China	1,678.0	AR 2007	166
Tax credits for the purchases of domestic equipment	1,319.0		35
Provision of assets for less than adequate remuneration (3rd acquisition agreement)	2,296.0		124-5
Total subsidies	5,293.0		
Net income	1,546.5		
Revenues	37,011.0		
Subsidy in UDS Mil.	695.9		
Subsidy rate	14.3%		

Coal

China Shenhua Energy Co. Ltd. ("Shenhua")

Shenhua was established in China during November 2004 as part of a restructuring.[192] It is one of China's major coal producers, but it also operates railway, port and power businesses.[193] Shenhua has 15 main subsidiaries and joint ventures, most of which are in the business of electricity generation and sales.[194]

At the time of Shenhua's formation, the government anticipated that the firm would list shares in domestic and overseas markets. As such, Shenhua is listed on the stock exchanges of Hong Kong and Shanghai. The shares traded on Hong Kong represent 17.09 percent of the company's total shares, while those traded in Shanghai represent 9.05 of total shares. The remaining portion of the shares (73.86 percent), are held by the Shenhua Group Corporation Limited, an enterprise wholly-owned by the central government SASAC.[195]

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[192] Shenhua Energy Co. Ltd. Annual Report for 2007 (hereafter, "Shenhua 2007 AR") at 159.
[193] *Id.* at 8.
[194] *Id.* at 89.
[195] *Id.* at 8 and 26.

Shenhua is domestically oriented. According to its annual report for 2007, 88.3 percent of Shenhua's sales satisfied domestic demand, while the remainder went toward export markets.[196] Although this breakdown partly reflects more rapid growth in China relative to other markets, it is also a reflection of a government policy to reduce coal exports and increase imports, presumably to ensure sufficient coal to supply China's energy needs.[197] It appears that Shenhua is preparing to expand its activities to international markets. According to its 2007 annual report, Shenhua "will, by international merger, acquisition and joint equity venture, obtain reserves of scarce resources and develop its international business with the objective of consolidating and raising the Company's leading position in the international coal industry."[198]

Total estimated subsidies to Shenhua: RMB 4,873 million ($641 million)

Shenhua benefits from capital grants, VAT refunds, preferential lending rates, preferential income tax rates, and tax credits for purchases of domestic equipment.

Its annual report for 2007 lists RMB 43 million in subsidy income.[199] According to press reports, the firm is slated to receive RMB 15 million in subsidies to establish a coal direct liquefaction lab to research key technologies and provide technical support for the commercialization of coal direct liquefaction technology in China.[200] Shenhua also received VAT refunds in 2007 from the Shanghai Lu Wan government and central governments for heat supply projects and resource utilization.[201] The VAT refund for 2007 totaled RMB 58 million. Shenhua also receives capital grants from the government

[196] *Id.* at 306.
[197] *Id.* at 113.
[198] *Id.* at 15.
[199] *Id.* at 17.
[200] "Shenhua establishes coal direct liquefaction lab," *China Chemical Reporter*. China National Chemical Information Center (2008). HighBeam Research. 24 Dec. 2008 <http://www.highbeam.com>.
[201] Shenhua 2007 AR at 219.

that are expensed over time. These grants are listed in Shenhua's financial reports as investment funds received in advance and are valued at RMB 430 million.

Many of Shenhua's subsidiaries benefit from reduced tax rates. These reductions are conferred on subsidiaries located in western China and on subsidiaries that are considered foreign invested enterprises.[202] According to Shenhua's annual report for 2007, the total tax savings due to these programs was RMB 3,467 million in 2007. Shenhua also benefitted from the program to provide tax credits for purchases of domestic equipment. This benefit amounted to RMB 169 million in 2006.[203]

Shenhua is an extremely profitable venture, with profits of RMB 23,148 on revenues of RMB 82,107 (28 percent).

Table 15. Valuation of subsidies to Shenhua, 2007

Item	RMB Mil.	Source	Page
Government grant	43.0		17
Government grant (deferred income)	430.0		280
VAT refund	51.0		219
Grant to establish coal direct liquefaction lab	15.0		art
Preferential lending rates	*640.4*	AR 2007	*291*
Preferential tax rates for investing in Western China/foreign invested enterprises	3,467.0		274
Tax credits for the purchases of domestic equipment	*169.0*		*274*
Total subsidies	4,815.4		
Net income	23,148.0		
Revenues	82,107.0		
Subsidy in UDS Mil.	633.1		
Subsidy rate	5.9%		

[202] *Id.* at 180-181.
[203] *Id.* at 274.

Civil Aviation

Air China Limited (Air China)

Air China is China's only national flag carrier. Its hubs are located in Shanghai, China's financial capital, and Chengdu, the capital city of Sichuan province in central China.[204] It is also the dominant carrier at Beijing Capital International Airport.[205] Air China holds interests in Air Macau Company Limited (51%), Air China Cargo Co., Ltd. (51%), Shandong Airlines Company Limited (22.8%), Shenzhen Airlines Company Limited (25%) and Cathay Pacific Airways Limited (17.5%).[206] In December 2007, the firm became a member of the so-called Star Alliance, which includes many of the world's largest airlines.

Air China is listed on the Shanghai Stock Exchange in China, and its foreign shares are listed in London and Hong Kong.[207] Its principal owner is the China National Aviation Holding Company, a state-owned enterprise which owns, directly and indirectly, approximately 80 percent of the available domestic shares (A shares—are these tradable?)[208] Cathay Pacific owns 49.05 percent of Air China's foreign shares (so-called "H shares"). Morgan Stanley, JP Morgan Chase, and Citigroup are other significant holders of Air China's foreign shares.[209]

The government of China has taken a strong interest in its carriers. China's Administration of Civil Aviation and local governments are subsidizing regional carriers

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[204] Air China Limited Annual Report for 2007 (hereafter, "AirChina 2007 AR").
[205] *Id.* at 7.
[206] *Id.*
[207] *Id.* at 2.
[208] *Id.* at 30.
[209] *Id.* at 30 – 31.

in order to bolster the availability of regional travel.[210] China's three largest airlines, Air China, China Eastern Airlines, and China Southern Airlines, are all state-owned and experiencing financial difficulties.[211] China Eastern has reportedly been late on payments and concluded large loans with the overseas branches of three Chinese state-owned banks.[212] Chinese aviation authorities are also considering industry consolidation in order to improve competitiveness against foreign carriers who are increasingly serving the Chinese market.[213]

Total estimated subsidies to Air China: RMB 2,473 million ($325 million)

Air China's subsidies appearing in its annual report come in the form of government grants and preferential tax rates.

The Chinese government funded the purchase of an aircraft in 2000 and injected additional aircraft in 2004.[214] These transactions are reflected as a deferred income balance of RMB 1,463 Million on Air China's balance sheet. Of this total, RMB 77 million was released as income in 2007. Other subsidies treated as income amount to RMB 131 million. The annual report does not specify the purpose of these funds. Additional government grants are provided annually through Air China's ultimate holding company, the state-owned China National Aviation Holding Company ("CNAHC"). The holding company is obligated to provide two payments of RMB 50

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[210] "CAAC to Subsidize Regional Aviation," *AsiaInfo Services* (December 13, 2006).
[211] Elaine Kurtenbach, "China airlines' earnings hit by surging fuel costs," *Associated Press* (August 27, 2008); and "Chinese airlines deny rumors of cash injection," *Xinhua News Agency* (January 17, 2007).
[212] "China Eastern Air in Deal for US$337M Lonas-Source," *Dow Jones* (April 23, 2008).
[213] Donald Greenlees, "Bid for China Eastern Airlines Stake Rebuffed," *The New York Times* (January 9, 2008).
[214] AirChina 2007 AR at 116.

million each year. Air China's balance sheet also indicates an additional amount of RMB 190 million from CNAHC as falling due during 2007.[215]

Air China states that its enterprise tax rates in China range from 12 percent to the standard rate of 33 percent. Its cargo affiliate is a recipient of the two full, three half program and a local tax exemption.[216] While Air China does not specify the full impact of these tax preferences, the difference between its current income tax and the amount that would be owed at the statutory rate implies a benefit of approximately RMB 589 million in 2007.

As this report is written, the government of China is also considering an RMB 3 billion bailout for the China Eastern Air Group, which is 12 percent owned by Air China.[217]

Table 16. Valuation of subsidies to Air China, 2007

Item	RMB Mil.	Source	Page
Government grants related to aircraft acquisition	1,462.7	AR 2007	85, 116
-Less amount amortized	-436.8		
Government grants (not specified)	131.1		85
Annual payment of outstanding government grant through SOE	100.0		53, 103
Preferential income tax rates	589.2		92
Total subsidies	1,846.2		
Net income	4,121.5		
Revenues	51,330.5		
Subsidy in UDS Mil.	242.7		
Subsidy rate	3.6%		

[215] *Id.* at 53. It appears that CNAHC paid RMB 54.8 million to Air China in 2007, but the remaining amount was simply shifted from a long-term receivable to a short-term one.
[216] *Id.* at 91.
[217] "AIR CHINA SUFFERS LOSSES FROM HOLDING IN EASTERN AIRLINES," *AsiaInfo Services* (2008). HighBeam Research. 26 Dec. 2008 <http://www.highbeam.com>.

Shipping

China COSCO Holdings Company Limited ("China COSCO")

Established in March 2005 from a wholly state-owned enterprise, China COSCO provides a wide range of container shipping, dry bulk shipping, logistics, terminals and container leasing covering the whole shipping value chain for both international and domestic customers.[218] Its dry bulk cargo fleet is the world's largest and its container manufacturing arm has 50 percent of the world market; its container leasing business is the world's second largest.[219]

China COSCO's shares have been listed domestically on the Shanghai Stock Exchange since June 2007 and are also listed in Hong Kong.[220] The controlling shareholder is the state-owned China Ocean Shipping (Group) Company, which held 53.57 percent of China COSCO's shares as of December 2007.[221] Other tranches of shares are also owned directly by state-owned entities or their subsidiaries, including Sinochem, COFCO Limited, and China National Machinery Industry Corporation.[222] In all, approximately 63 percent of China COSCO shares are state-owned and/or subject to trading restrictions.

China COSCO holds 100 percent ownership of 200 subsidiaries spread across the world and along the spectrum of the logistics value chain.[223] Only one of these subsidiaries, COSCO Container Lines Americas, Inc., is operates in the United States.[224] China COSCO also has nearly three dozen joint ventures, including COSCO Bulk Carrier

[218] China COSCO Holdings Company Limited Annual Report for 2007 (hereafter, "China COSCO 2007 AR") at 2.
[219] *Id.*
[220] *Id.* at 6.
[221] *Id.* at 18.
[222] *Id.* at 20.
[223] *Id.* at 289-302.
[224] *Id.* at 293.

Americas Inc., with operations in Delaware. China COSCO experienced rapid growth in sales since 2003, when revenues were RMB 25.9 billion, to 2007, when revenues reached RMB 108.0 billion, reflecting China growing trade and economic growth.[225] China COSCO's business strategy is to develop long-term contracts with major cargo owners. Its 2007 annual report specifically mentions recent 20-year contracts with "Shougang" and "Baogang," two large steel producers that are also state-owned.[226]

Total estimated subsidies to COSCO: RMB 2,775 million ($365 million)

COSCO's receives subsidies through subsidy income, favorable tax rates, and through contributions from its government-owned parent company.

According to COSCO's annual report for 2007, RMB 47.6 million of other income is attributed to a government subsidy.[227] COSCO's reconciliation of income tax expenses indicates that approximately RMB 2,500 million is saved due to differential tax rates.[228] COSCO's cash flow statement indicates that its state-owned parent company made a contribution of RMB 208 million to COSCO in 2007.[229]

In addition, the state-owned COSCO Group purchased approximately RMB 1,610 million in stock from COSCO as part of a large transaction which greatly increased the latter's shipping capacity. In this transaction, the state-owned parent gave money and assets to COSCO, but received only shares equal to the value of the assets conferred. This share purchase will amount to a subsidy unless COSCO uses the money received to

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[225] *Id.* at 308.
[226] *Id.* at 84. for discussion of state-ownership in China's steel sector, see Alan Price, et al., Money for Metal (July 2007) at 8-9; and *SBB Analytics China* (September 11, 2007) at 4.
[227] COSCO 2007 AR at 253.
[228] *Id.* at 258-9. The tax attributable to Hong Kong is minor and the tax rates faced in other markets differs little from China's statutory rate. Thus, the deduction provided by COSCO's annual report is a good proxy for the impact of preferential tax rates in China.
[229] *Id.* at 151.

pay its parent for an equivalent amount of assets. As of December 31, 2007, that payment had yet to occur.[230]

Table 17. Valuation of subsidies to COSCO, 2007

Item	RMB Mil.	Source	Page
Contributions from COSCO Goup	207.9		151
Subsidy income	47.6	AR 2007	97, 253
Preferential tax rates	2,490.2		258-259
Total subsidies	2,745.7		
Net income	21,205.7		
Revenues	107,998.9		
Subsidy in UDS Mil.	361.0		
Subsidy rate	2.5%		

Analysis of Heavyweight Subsidiaries

Machinery

Jingwei Textile Machinery Company Limited ("JTM")

The flagship company of China's textile machinery industry, JTM develops, manufactures, and sells textile machinery, components, and parts. Its major products include a full suite of cotton weaving machines. It supplies approximately half of China's domestic textile machinery market.[231]

JTM is incorporated in China (the "PRC") with shares listed on exchanges in Hong Kong and Shenzhen. It was listed in Hong Kong in 1996, one year after its establishment during the restructuring of the Jingwei Textile Machinery Factory.[232]

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[230] *Id.* at 19, 21, 108, 150, 233.   COSCO tripled the size of its fleet through RMB 34.6 billion worth of transactions with its parent company. RMB 16 billion was paid for by issuing 864.3 million shares to the state-owned parent ("COSCO Group") and the remainder was paid for in cash raised from a private placement to other (largely state-owned) investors. The state-owned parent purchased 53.7 million of these shares for RMB 30 per share.   COSCO's cash flow statement suggests there has been only RMB 12.8 billion paid to the parent, far less than the RMB 18.6 billion owed.

[231] *Jingwei Textile Machinery Company Limited* Annual Report for 2007 (hereafter, "JTM 2007 AR") at 33.

[232] *Id.* at 33 and 72.

Holders of these listed shares own 66.17 percent of the company.[233] The China Textile Machinery (Group) Company Limited ("CTMC") owns the remaining 33.83 percent of JTM's shares and exercises control over the company. However, CTMC is 87.57-percent owned by the China Hengtian Group Company, which is wholly-owned by the central government SASAC.[234] As such, the directors of JTM regard the government-owned Hengtian Group as the company's beneficial owner and ultimate holding company.[235] Thus, JTM appears to be controlled by the government even though two-thirds of its shares are privately held.

In addition to dominating the domestic market for textile machinery, JTM is also a major exporter with sales in more than 40 countries.[236] Exports accounted for 14 percent of JTM's sales in 2007.[237] Its export markets are primarily elsewhere in Asia, though African markets are also important.[238] Although JTM holds a dominant position in the domestic market, the firm is currently being upgraded as part of the government's efforts to revitalize the country's equipment manufacturing industry during the "11th Five-Year Plan" period.[239]

Total estimated subsidies to JTM: RMB 127 million ($17 million)

The machinery industry in China is currently favored by Chinese government policies. Thus, JTM receives favorable tax treatment and government grants from central and local governments.

[233] *Id.* at 170.
[234] *Id.* at 9.
[235] *Id.* at 9 and 170.
[236] *Id.* at 33.
[237] *Id.* at 37.
[238] *Id.*
[239] *Id.* at 43.

Instead of the 33 percent rate paid by typical Chinese companies, JTM pays a 15 percent rate, which provides a benefit of RMB 36 million.[240] JTM also reports RMB 5 million in tax exemptions for certain subsidiaries and an RMB 8 million tax credit for the purchase of PRC-produced plant and equipment and certain qualifying R&D expenditures.[241] The firm also received a VAT rebate of RMB 2 million in 2007, some of which was pursuant to policies favoring the software and integrated circuit industries.[242]

JTM'S annual report lists several government grants, including RMB 9 million from a special fund targeting SOEs in the textile industry, and another earnings related grant of RMB 1.8 million, both provided by China's Ministry of Finance; RMB 5 million for a construction project in Laoshan, provided by the Qingdao Laoshan government; RMB 4 million for reconstruction, provided by the Tianjin New Technology Industrial Park Management Committee; and an additional RMB 2 million provided by an unnamed government entity.[243] In 2006, JTM received a refund of RMB 10 million from the government on land purchased by one of its parts manufacturing subsidiaries.[244] The 2007 annual report also acknowledges that the firm lined up RMB 43 million in state support for two projects falling under programs announced by the National Development Reform Commission and the Ministry of Technology, though it is not clear if these funds have been disbursed.[245]

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[240] *Id.* at 189.
[241] *Id.* at 189.
[242] *Id.*
[243] *Id.* at 117.
[244] *Id.*
[245] *Id.* at 35.

Table 18. Valuation of subsidies to JTM, 2007

Item	RMB Mil.	Source	Page
Government grant -- local support funds	10.8	AR 2007	117
Government grant to SOEs to encourage technological development in textile industry	8.9		115
Government grant (earnings-related grant and textile industry special fund)	1.8		158
Government grant for equipment upgrade	43.0		35
Refund of land purchase money (2006)	10.3		170
Preferential tax rates	36.4		189
Additional tax exemptions	5.0		189
VAT rebate to encourage the development of software & IC industries	2.0		115
Tax credits for the purchases of domestic equipment and certain R&D expenses	8.3		189
Total subsidies	126.5		
Net income	175.6		
Revenues	5,432.7		
Subsidy in UDS Mil.	16.6		
Subsidy rate	2.3%		

Automobiles

Dongfeng Motor Group Co. Ltd. ("DMG")

DMG manufactures and sells commercial vehicles, passenger vehicles, auto engines and parts. It also produces vehicle manufacturing equipment and engages in other automotive-related businesses.[246] Its joint venture partners include Nissan Motor Co. (passenger vehicles and automobile finance); Peugeot Citroën (passenger vehicles, engines, and auto parts); and Honda Motor Co. (passenger vehicles, engines, and auto parts).[247]

[246] Dongfeng Motor Group Co. Ltd. Annual Report for 2007 (hereafter, "DMG 2007 AR") at 1.
[247] *Id.* at 4.

DMG was created as part of a debt restructuring in 2000 of the Second Automotive Works, now known as the Dongfeng Motor Corporation ("Dongfeng").[248] As of yearend 2007, Dongfeng owned 66.86 percent of DMG's shares and is considered to be DMG's ultimate holding company.[249] DMG issued "H" shares on the Hong Kong Stock Exchange in December 2005, and the holders of these shares own the remaining 33.14 percent of the company. Among the largest holders of "H" shares are JPMorgan Chase & Co. and Morgan Stanley.[250]

DMG has traditionally been geared toward serving the domestic market, but that is changing. More than 90 percent of its sales in 2007 were made to customers in China, and it owns no production facilities abroad.[251] In terms of market share, DMG is a major player in China, holding 10.8 of the domestic market.[252] It ranks first in medium trucks, second in SUVs and light trucks, and third in heavy trucks and passenger vehicles.[253] Press reports indicate vehicle export sales to markets in Africa, the Middle East, Southeast Asia, and South America, and that exports in 2008 are well above year earlier levels.[254] Other press reports indicate that DMG's parts subsidiaries are making sales to Europe.[255] Moreover, a senior official in China's Ministry of Industry and Information Technology has told reporters that DMG's state-owned parent has the capability and the intention to buy assets from GM and Chrysler.[256]

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[248] *Id.* at 1.
[249] *Id.* at 1, 31, and 33.
[250] *Id.* at 31.
[251] *Id.* at 87.
[252] *Id.* at 6.
[253] *Id.*
[254] "Dongfeng Automobile Finished 08 Export Goal," *AsianInfo Services* (October 9, 2008).
[255] George Gao, "Dongfeng Citroen exports 2.3 mln euro auto parts in Q1," *Global Auto Sources (gassgoo.com)* (May 9, 2008).
[256] George Gao, "SAIC, Dongfeng said to buy GM, Chrysler assets," *Global Auto Sources (gassgoo.com)* (November 18, 2008).

Total estimated subsidies to DMG: RMB 1,595 million ($210 million)

DMG receives tax breaks by virtue of its foreign ownership, government grants for business development, and preferential lending rates.

The firm's consolidated annual report for 2007 shows that it began the year with RMB 79 million with government grants leftover from 2006 and received an additional RMB 204 million, mostly for business development.[257] DMG notes that the grants received from the government were "for the purpose of supporting the development of automotive technologies and automobile projects as well as an increase in the sales of raw materials."[258]

DMG's tax benefits offer substantial tax savings. The firm estimates that its various tax concession and lower rates for specific provinces and locations saved it RMB 849 million.[259]

There are several indications that DMG also benefits from favorable lending arrangements. The notes to its financial statement contain examples of the interest rates faced by the firm. Certain loans were made at interest rates such as 0.72 percent, 1.0 percent, 2.0 percent, 2.25 percent, 4.86 percent, and LIBOR + 0.1, all of which are well below China's prime rate during 2006 and 2007.[260]

[257] DMG 2007 AR at 131.
[258] *Id.* at 16.
[259] *Id.* at 102.
[260] *Id.* at 127-8.

Table 19. Valuation of subsidies to DMG, 2007

Item	RMB Mil.	Source	Page
Government grant for business development	204.0	AR 2007	131
Government grant (deferred)	79.0		131
Preferential tax rates	849.0		102
Preferential lending	462.7		127-8
Total subsidies	1,390.7		
Net income	4,037.0		
Revenues	59,318.0		
Subsidy in UDS Mil.	182.8		
Subsidy rate	2.3%		

Information Technology

China Electronics Corporation Holdings Company Limited ("CEC")

CEC is a Chinese information technology firm producing mobile communications equipment, semiconductors, electronic components, and software, and providing related services.[261] Its principal subsidiary is Shenzhen Sang Fei Consumer Communications Company Limited ("Sang Fei"), a high-tech, foreign-invested enterprise established in Shenzhen, a Special Economic Zone in China.[262]

CEC is incorporated in the Cayman Islands, registered in Bermuda, and traded on the Hong Kong Stock Exchange, where it has been listed since 1997.[263] The ultimate holding company of CEC is the China Electronics Corporation ("China Electronics"), which is 100 percent owned by China's central SASAC. China Electronics owns 74.98 percent of CEC.[264] Until March 2007, Sang Fei, CEC's principal subsidiary, was 25 percent owned by Koninklijke Philips Electronics N.V ("Philips), which was also one of Sang Fei's largest customers. However, Philips exited the mobile handset industry in

[261] China Electronics Corporation Holdings Company Limited Annual Report for 2007 (hereafter, "CEC 2007 Annual Report") at 3.
[262] *Id.* at 56. CEC owns 65 percent of Sang Fei.
[263] *Id.* at 35.
[264] *Id.* at 25.

March and sold its equity interest in Sang Fei to another subsidiary of government-owned China Electronics.[265] Prior to Philips' exit, its purchases from, and raw materials sales to, Sang Fei were approved by the state-owned China Electronics.[266]

Most of CEC's exports are invoiced in U.S. dollars, suggesting that the company competes in the U.S. market.[267] According to the PIERS service, from September 2007 to August 2008, there were $12.7 million in U.S. machinery imports attributed to China Electronics, the vast majority consisting of consumer electronics, but it is unclear how much of this activity can be attributed to CEC.

Total estimated subsidies to CEC: HK$ 34.5 million ($4.4 million)

CEC was listed in Hong Kong through a back door listing, whereby the state-owned parent "sold" its handheld device subsidiary to an existing firm, Winsan Investment Group (WIG"), which was already listed on the Hong Kong Stock Exchange. However, WIG paid by issuing new shares to the SOE, which thereby came to own more than 80 percent of the listed firm and subsequently sold WIG's existing businesses.

CEC appears to have benefitted from only two types of subsidies: preferential income tax rates and preferential lending. Its preferences derive from its status as a foreign invested firm, is location in special economic zones, and its status as a high tech firm. These preferences saved approximately HK$ 9.8 million in 2007.[268] CEC's annual report for 2007 indicates that the firm's annual finance costs in 2007 amounted to approximately 2 percent of outstanding bank loans at a time when the prime rate in China exceeded 6 percent. CEC's 2007 annual report is very vague on loan interest rates, but its

[265] *Id.* at 4, 22, and 72.
[266] *Id.* at 22.
[267] *Id.* at 6.
[268] *Id.* at 67

official circular in 2004, which provided disclosure-related information for the back door listing, acknowledged that CEC benefitted from low and interest free government loans.[269] Based on the average of subsidy rates applied in investigations where preferential lending was found, the value of the subsidy is HK$ 24.8 mil.

Table 20. Valuation of subsidies to CEC, 2007

Item	HKD Mil.	Source	Page
Preferential tax rates (2006)	9.8	2007 AR	67
Preferential lending	24.7		28
Total subsidies	34.5		
Net income	12.5		
Revenues	3,167.7		
Subsidy in UDS Mil.	4.4		
Subsidy rate	1.1%		

IRICO Group Electronics Company Limited ("IGE")

Incorporated in September 2004, IGE and its subsidiaries produce electronic display devices and related parts and components. The firm is currently transitioning from the production of color picture tubes to flat panel display devices.[270] It recently entered the fields of thin film transistor liquid crystal display ("TFT-LCD") glass substrate, luminous materials, and metallic component manufacturing.[271]

IGE is owned by IRICO Group Corporation, which hold three-quarters of the Company's shares, and by holders of the firm's H shares, which are listed in Hong Kong.[272] The IRICO Group Corporation is a 100 percent state-owned enterprise.[273]

IGE's primary market is in China, and the firm's domestic market share for color picture tubes is 25 percent.[274] IGE is also the world's third largest manufacturer of color

[269] Winsan (China) Investment Group Company Limited, *POSSIBLE ACQUISITION OF 65% EQUITY INTEREST IN SHENZHEN SANG FEI CONSUMER COMMUNICATIONS COMPANY LIMITED FROM CHINA ELECTRONICS CORPORATION* (June 21, 2004) at II-21.
[270] *IRICO Group Electronics Company Limited* Annual Report for 2007 (hereafter, "IGE 2007 AR") at 2.
[271] *Id.* at 14.
[272] *Id.* at 150 and 163.
[273] *Id.* at 2.

picture tubes.[275] However, the move away from picture tube-based to flat screen televisions has adversely affected IGE's financial performance. For example, the firm's sales revenues declined by RMB 1.5 billion between 2004 and 2007.[276] In contrast, the global market for TFT-LCD glass substrates is expanding rapidly, leading to shortages in China, where many flat-screen televisions are made.[277] According to IGE, the decision to invest in TFT-LCD glass substrate production "was initially established and concocted by IRICO Group Corporation," IGE's government-owned parent, and IGE is purchasing the production facilities from IRICO.[278] When announced in January 2007, the construction of the first TFT-LCD facility was expected to cost RMB 700 million and yield RMB 120 million in annual profits.[279]

Total estimated subsidies to IGE: RMB 353 million ($46 million)

IGE is subsidized by government grants, preferential tax rates, and preferential lending rates. It also is purchasing equity in a project at a price well below the full project cost from its government-owned parent.

According to IGE's annual report for 2007, it received RMB 25 million in grants in 2007 and amortized RMB 3 million from previously received subsidies.[280] The purpose of these subsidies is not disclosed, though IGE notes that the central government is pursuing a favorable subsidy policy affecting one of its business lines.[281]

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[274] *Id.* at 100.
[275] *Id.* at 13.
[276] *Id.* at 161.
[277] *Id.* at 10 and 14. According to IGE, there was no production of glass substrate for TFT-LCD in China during 2007. IGE's substrate production line began production in March 2008.
[278] *Id.* at 14.
[279] "IRICO Builds Liquid Crystal Glass Substrate plant," *AsiaInfo Services* (January 22, 2007).
[280] IGE 2007 AR at 101.
[281] *Id.* at 12.

IGE has several subsidiaries and provides an extensive discussion of the income tax benefits they receive. Preferential rates arise due to the presence of subsidiaries producing favored products in western China, a certain subsidiary's status as high technology company, the location of a subsidiary in a special economic zone, and the presence of sufficient foreign capital in three subsidiaries.[282] As a result of these special programs, the firm reduced its tax burden by RMB 22 million in 2007.

A number of items in IGE's financial report speak to favorable lending arrangements. The financial expenses incurred by IGE on its bank loans suggest the firm obtains preferential loans.[283] The firm acknowledges certain borrowing at interest rates as low as 3.78 percent. Moreover, more than one-fourth of its loans are guaranteed by collateral put up by its state-owned parent.[284] IGE also transferred certain loans to its SOE parent and now treats those loans as interest-free non-trade payables to the parent.[285] Applying the average subsidy rate for preferential lending in U.S. anti-subsidy proceedings yields a subsidy value of RMB 26.2 million.

The most substantial benefit conferred upon IGE is the TFT-LCD glass substrate production facility established by IGE's government-owned parent. According to IGE, project costs totaled RMB 800 million, but IGE is purchasing 69.53 percent of the project for only RMB 280 million.[286] This translates into a benefit of RMB 277 million.[287]

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[282] *Id.* at 106-107.
[283] *Id.* at 97-98, 105. For example, the interest expense on short-term bank borrowing in 2007 and short-term loan balances in 2006 and 2007 imply an interest rate of 5 percent, comfortably below the prime rate in China.
[284] *Id.* at 136 and 156.
[285] *Id.* at 155.
[286] *Id.* at 14; Serena Li and Kevin Luo, *IRICO Group Electronics Co. Ltd: A Significant Growth Driver* Guotai Junan (HK) (September 10, 2007) at 1 and 23-24.
[287] The Department of Commerce would not countervail this whole amount in a single year, but spread it out over a period of time, such as 15 years, that would reflect the life of the asset.

Table 21. Valuation of subsidies to IGE, 2007

Item	RMB Mil.	Source	Page
Government grants	28.8	2007 AR	101
Preferential tax rates	21.8		106
Preferential lending	26.2		137
Provision of assets for less than adequate remuneration	276.7		articles
Total subsidies	353.5		
Net income	72.2		
Revenues	3,359.0		
Subsidy in UDS Mil.	46.5		
Subsidy rate	10.5%		

Construction

China State Construction International Holdings Ltd. ("CSCI")

CSCI is a construction holding company based in Hong Kong serving markets in Mainland China, Hong Kong, Macau, India, and the United Arab Emirates.[288] The firm engages in building construction; civil, electrical and mechanical engineering; concrete production, and land development. It is among the largest construction contractors in Hong Kong.[289]

CSCI is listed on the Hong Kong Stock Exchange but not in China or any other foreign exchange. It was incorporated in Cayman Islands during March 2004 and its shares were listed in Hong Kong beginning in July 2005.[290] Its immediate holding company is China Overseas Holdings Limited, which is incorporated in Hong Kong. CSCI's ultimate holding company is the China State Construction Engineering

[288] China State Construction International Holdings Limited Annual Report for 2007 (hereafter, "CSCI 2007 AR") at 3.
[289] See http://www.csci.com.hk/.
[290] CSCI 2007 AR at 93.

Corporation ("CSCEC"), which is owned by the central government SASAC.[291] CSCEC owns approximately 62 percent of CSCI.

Although CSCI is ultimately controlled by a firm owned by SASAC, the vast majority of CSCI's business is beyond mainland China. In 2007, mainland China activity accounted for only 6.5 percent of the firm's turnover, while activity in Hong Kong and Macau accounted for 54.1 percent and 15.6 percent, respectively.[292] CSCI acquired 20.3 percent of its sales from the Dubai market and 3.5 percent from the Indian market.[293] Although China accounted for only 6.5 percent of turnover in 2007, it accounted 30.5 percent of gross profits and had the highest gross margin, 35.2 percent, of any region.[294] Chinese labor is used in overseas projects.[295]

Total estimated subsidies to CSCI: HK$ 88.1 million ($11.3 million)

CSCI is not listed on any Chinese stock exchanges and most of its revenues are earned outside of China. The firm nevertheless benefits from Chinese government largesse in the form of preferential tax rates and lending.

CSCI's annual report for 2007 indicates that certain operations in China receive benefits through the two full, three half program. The firm valued these benefits at HK$ 8.8 million for 2007.[296] CSCI's financial statement acknowledges that the vast majority of the firm's interest-bearing loans is denominated in RMB and bears annual interest rates of 1.26 percent, well below market rates in China.[297] The estimated value of preferential lending is HK$ 79.3 million.

[291] *Id.* at 74.
[292] *Id.* at 16-17.
[293] *Id.*
[294] *Id.* at 19-20.
[295] *Id.* at 14.
[296] *Id.* at 122.
[297] *Id.* at 139.

Table 22. Valuation of subsidies to CSCI, 2007

Item	HKD Mil.	Source	Page
Preferential tax rates	8.8	2007 AR	122
Preferential lending	79.3		139
Total subsidies	88.1		
Net income	448.0		
Revenues	10,168.3		
Subsidy in UDS Mil.	11.3		
Subsidy rate	0.9%		

Iron and Steel and Nonferrous Metals

Angang Steel Co Ltd. ("*Angang*")

Angang is a manufacturer of flat-rolled steel products such as hot and cold rolled sheets and steel plate and long products such as wire rod and seamless pipe.[298] Based in Liaoning, it is one of several large state-owned steel producers, and is China's second largest steel producer by market value.[299] It has joint ventures involving Thyssen Krupp and Mitsui,[300] among others, and was recently approached by Arcelor Mittal, the world's largest steelmaker, who is interested in acquiring a 25 percent stake in Angang.[301]

Angang is listed on the Hong Kong Stock Exchange (H shares) and the Shenzhen Stock Exchange (A shares). Like most other large steel producers in China, Angang is ultimately owned by China's central SASAC.[302] As is frequently the case in China, the central SASAC is the 100 percent owner of a holding company – Angang Holding Company – and this company owns approximately two thirds of Angang.[303] The

[298] Angang Steel Company Limited Annual Report for 2007 (hereafter, "Angang 2007 AR") at 3.
[299] "Press Release: Fitch Cuts Ansteel Outlook To Stable," Dow Jones (September 22, 2008).
[300] Angang 2007 AR at 38-39.
[301] Vivian Wai-yin Kwok, "Mittal Gets Iron Clawhold into Angang Steel," *Forbes.com* (May 5, 2008).
[302] Sub-national SASACs are also present in China's provinces and large municipalities, but are ultimately responsible to the central SASAC.
[303] Angang 2007 AR at 23. The shares owned by the Angang Holding Company are subject to a trading moratorium. The moratorium on the largest tranche of shares is slated to expire in 2011.

remaining shares are held by investors who purchased shares in Hong Kong and Shenzhen.

For years, China encouraged steel exports by refunding the value added tax upon export. Although the refunds were reduced and terminated for steel products in recent years, Angang had already become a significant player in export markets. In 2007, exports accounted for approximately one fifth of the company's sales volume and value.[304]

Total estimated subsidies to Angang: RMB 723 million ($95 million)

According to its 2007 annual report, the subsidies received by ASC are largely in the form of tax preferences and preferential interest rates.

Angang lists no government grants in 2007 and only RMB 3 million in 2006.[305]

Angang's tax breaks in 2007 consist of exemptions related to: R&D expenditures (RMB 453 million), outputs from so-called environmental protection facilities (RMB 145 million), and investments in the technical development of domestically produced machinery.[306] These subsidies totaled RMB 706 million in 2006.

Angang benefitted from preferential lending in 2007, as demonstrated by the low interest rates detailed in its annual report.[307, 308] Given the relatively strong performance of Angang – it is one of China's largest steel producers – the GOC appears to believe that large lending preferences are no longer necessary (though it is possible that the firm is assisted in other ways that are not explained in its annual report). This was not the case

[304] *Id.* at 15 and 33.
[305] *Id.* at 131.
[306] *Id.* at 154.
[307] *Id.* at 140, 143-4, 219.
[308] The interest rates that apply to the larger renminbi balances are below market rates, but Angang's borrowings are not sufficient to justify a rate based on the average rate applied by the Department in China CVD cases. Instead, the first quartile rate of 0.16 percent of sales has been applied.

at the turn of the century. According to Angang's 2001 annual report, the firm received an interest free RMB 600 million loan from its state-owned parent that was to be repaid over a five year period beginning in 1998. Given that prevailing interest rates at the time were 10.35 percent for five year loans in China, value of this preference was substantial.

Table 23. Valuation of subsidies to Angang, 2007

Item	RMB Mil.	Source	Page
Government grant (2006)	3.0	2007 AR	171
Preferential tax rates (environmental facilities)	145.0		154
Preferential tax rates (R&D)	453.0		154
Preferential tax rates (purchase of domestic equipment)	17.0		154
Preferential lending	104.8		219
Total subsidies	722.8		
Net income	7,525.0		
Revenues	65,499.0		
Subsidy in UDS Mil.	95.0		
Subsidy rate	1.1%		

Aluminum Corporation of China Limited ("Chalco")

Chalco is a vertically integrated aluminum powerhouse engaged in the exploration and production of bauxite; and the production, sales and research of alumina, primary aluminum and aluminum-fabricated products.[309] It is China's largest producer of alumina, as well as the world's third largest producer of alumina and fourth largest producer of primary aluminum.[310] Its operations are located in several different Chinese provinces. It is effectively China's national champion in the aluminum sector.

Chalco's shares are listed on the stock exchanges of Shanghai, Hong Kong and the New York. The firm's primary owner is the Aluminum Corporation of China

[309] Aluminum Corporation of China Limited Annual Report for 2007 (hereafter, "Chalco 2007 AR"), at 2.
[310] *Id*.

("Chinalco"), which is 100 percent owned by the central government SASAC.[311] This SASAC-owned entity directly controls 39 percent of Chalco's shares.[312] An additional 21 percent of Chalco's shares are held by state-owned entities, some of which are also controlled by Chinalco. For example, the Baotou Aluminum (Group) Co., Ltd. owns 2.6 percent of Chalco, but itself is owned by Chinalco.[313] In 2007, Chalco issued shares in order to "merge" with other Chinese aluminum industry players, including Baotou.[314]

Chalco is expanding its international activities in search of markets and resources. According to its annual report, "Since resource is the basis for the sustainable development of the Company, the Group will press ahead its corporate resource strategy *by focusing on resource acquisition and control*."[315] In 2007, Chalco and the Government of Queensland, Australia officially entered into agreements that would enable the firm to explore and mine bauxite in Australia.[316] Also in 2007, Chalco, the Malaysia Mining Company (MMC), and Saudi Arabian Binladin Group (SBG) entered into a memorandum of understanding to jointly construct a primary aluminum plant with an annual capacity of 1 million metric tons in Saudi Arabia. Chalco will be the largest shareholder in the project.[317] Chinalco, Chalco's state-owned parent company, is expanding overseas in order to secure resources such as copper (in Peru) and rare earth metals, and has plans to enter titanium production as well.[318] In 2008, Chinalco

[311] According to its web site, Chinalco is an investment management and holding company authorized by the state and a backbone state-owned enterprise under direct administration of the central government.
[312] Chalco 2007 AR at 24.
[313] Chalco 2007 AR at 24; and Chinalco's web site at http://www.chalco.com.cn/, under "organizational structure."
[314] Chalco 2007 AR at 24.
[315] *Id.* at 41. (Italics added.)
[316] *Id.* at 38.
[317] *Id.* at 39.
[318] "Chinalco: No Decision Yet on Rio Tinto Stake Hike," *Dow Jones* (September 1, 2008).

purchased 12 percent of Australia's Rio Tinto PLC, which at the time was fending off a takeover proposal from rival BHP Billiton Ltd.[319]

Total estimated subsidies to Chalco: RMB 3,379 million ($444 million)

The Chinese government subsidizes Chalco through government grants, preferential tax rates, and preferential lending. The firm and other aluminum producers in China have also benefitted from favorable electricity prices set by the government.

According to Chalco's annual report for 2007, grants through its government-owned parent for technological development projects are treated as capital reserves.[320] These reserves total RMB 139 million in 2007. Chalco's financial report also acknowledges subsidy income of RMB 23 million in 2007 (RMB 60 million in 2006), but the purpose of these subsidies is not specified.[321] Government grants related to property, plant and equipment appear as non-current liabilities on the consolidated balance sheet. These were valued at RMB 148 million in 2007.

Chalco's preferential tax rates arise due to the location of certain operations in Western China and due to its purchases of domestically manufactured equipment.[322] Chalco has two subsidiaries subject to 15 percent tax rates because they are located in western China. This program reduced Chalco's taxes by RMB 1,079 million in 2007. Chalco's capital expenditures on domestically manufactured production equipment saved the firm an additional RMB 805 million.

Chalco's annual report also indicates that the firm received below market interest rates from state-owned banks and loan guarantees from state-owned enterprises. While

[319] "Australian Govt Approves Chinalco Stake in Rio Tinto," *Dow Jones* (August 24, 2008).
[320] Chalco 2007 AR at 190.
[321] *Id.* at 198.
[322] *Id.* at 213-214.

not all loan rates are specified, there is evidence that lending occurred at rates of 0 percent, 0.3 percent, 3.13 percent, and 3.6 percent.[323]

Until 2008, Chalco and other producers of aluminum benefitted from low electricity prices determined by the government. The Department of Commerce has on most occasions declined to countervail low electricity prices in China due to a lack of information or due to other information provided by the Chinese government. Chalco's form 20-F for 2007, submitted to the U.S. Securities and Exchange Commission, as well as other public information demonstrates that the Chinese government set low electricity prices for aluminum producers and that these low prices have reduced production costs significantly.

Electricity is a major cost component of aluminum production. Electricity accounts for 7.6 percent of alumina production cost and 33.7 percent of primary aluminum production cost.[324] According to Chalco, it consumed 34.9 billion kilowatts of electricity in 2007 at an average price of RMB 0.359 per kWh. Thus, its electricity cost in 2007 was RMB 12.5 billion.

The price setting mechanism for electricity in China is described in Chalco's form 20-F. There is no doubt that prices are set by the government and that the aluminum industry has benefited from favorable rates:

> We purchase electricity from the regional power grids for our smelter operations. Prices for electricity supplied by the power grids under power supply contracts *are set by the government* based on the power generation cost in the region and the consumers' ability to pay. Industrial users within each region are generally subject to a common electricity tariff schedule, but prices vary, sometimes substantially, across regions. Each regional power grid serves a region comprising several provinces. The regional

[323] *Id.* at 222. While some of these rates are for bonds, and not loans, information in the annual report indicates that other SOEs are holding Chalco's bonds. See AR 192, 221, 225,
[324] Chalco 2007 20-F at 29.

> power grids generally rely on multiple power sources to generate electricity, with coal and hydro power being the two most common sources.[325]
>
> The State Electricity Regulatory Commission is responsible for the supervision and administration of the power industry in China. The NDRC and local governments regulate electricity pricing. Electricity suppliers may not change their electricity prices without governmental authorization. The Electric Power Law and related rules and regulations govern electricity supply and distribution. Currently, China's state-owned power companies, through their respective local subsidiaries, operate all the regional power grids in China from which we obtain most of our electricity requirements. In October, 2007, Chinese government issued "Notice to Further Solutions to Difference in Electricity Rates", according to which the *preferential electricity rate originally enjoyed by Chinese primary aluminum enterprises ended at the end of 2007*.[326]

According to Chalco's 20-F for 2003, the favorable electricity prices and other benefits exist because the central government is favoring large producers in order to facilitate industry consolidation.[327]

The Chinese government announced an increase in electricity rates of 4.7 percent, on average, effective July 1, 2008.[328] If Chalco had paid the new electricity price in 2007, it would have spent an additional RMB 588 million to purchase electricity. This is a conservative estimate of the subsidy provided by the government's electricity price controls because electricity price in China, even after the price increases, are still controlled by the government and set at below-market levels.

[325] *Id.* at 29-30.
[326] *Id.* at 42.
[327] Chalco 2003 20-F at 27-8. Chalco specifies favorable access to raw materials, tax preferences, and subsidies for R&D as other sources of benefits.
[328] "China raises power prices amid shortages," *AP Worldstream* (2008). HighBeam Research. 13 Jan. 2009 <http://www.highbeam.com>.

Table 24. Valuation of subsidies to Chalco, 2007

Item	RMB Mil.	Source	Page
Government grants (related to property, plant, and equipment)	148.3	2007 AR	102, 128
Government grant (subsidy income)	23.5		8, 198
Grants to support technological development (capital reserve)	139.0		190
Preferential tax rates (purchase of domestic equipment)	805.6		47, 214
Preferential tax rates (due to location)	1,079.2		47, 213-222
Preferential lending	594.2		195
Provision of assets for less than adequate remuneration	235.9		106, 148, 198
Preferential electricity prices	588.9	2007 20F	20F-11
Preferential prices for products and services provided by SOEs	Unknown		20F-12
Total subsidies	3,614.5		
Net income	11,628.9		
Revenues	76,180.4		
Subsidy in UDS Mil.	475.2		
Subsidy rate	4.7%		

Recent reports out of China indicate that Beijing is actively moving to prop up China's ailing aluminum sector. China's State Reserve Bureau plans to purchase 300,000 metric tons of domestic aluminum at a 10-percent premium to current market levels, from Chalco and other smelters.[329] Following the government's announcement, sub-national governments announced several aid measures, including relaxed export controls, further stockpiling, electricity subsidies, and higher loan ceilings.[330]

Identifiable Patterns of State Support

China's desire to control and guide the development of key industries is singular, but the goals of this support vary substantially from industry to industry. In some case,

[329] "China's state reserve agency stockpile to buoy aluminum sector," *Xinhua News Agency* (2008). HighBeam Research. 12 Jan. 2009 <http://www.highbeam.com>. Total purchases could reach one million MTs.

[330] *Id.*

the government is simply seeking to upgrade the industry's technological sophistication. In others, the government is out to ensure that its companies have the financial wherewithal to secure needed resources for China. As the majority or primary owner of each firm is a state-owned enterprise, the State has the necessary leverage to compel the firms to action.

Upgrade and finance the armaments industry

It was not possible to analyze firms that produce weaponry for China as weapons manufacturing appears to reside mostly with wholly state-owned enterprises. It does appear, however, that the government of China is aiming to upgrade China's aerospace industry. The government is behind the development of technological parks focused on aerospace. AviChina has joint ventures and other relationships with some of the world's top aerospace firms. These relationships offer an ideal venue for technology transfer to AviChina, which is majority-owned by one of China's major defense-oriented SOEs.

China's arms industry has historically been unprofitable, and there is some indication that China's armaments SOEs are being partially funded by subsidiaries in money-making industries, such as the automotive industry.

Development of strategic sectors

Although China has reversed course from it previous reluctance to engage with the global economy, the government has not abandoned its desire to direct the course of Chinese economic development. The materials reviewed for this report indicate that China intends to develop its civilian aerospace, the automotive and parts industry, the software and integrated circuits industries, and wireless communications. These are clearly strategic sectors that are currently dominated by advanced country economies.

On the other hand, China is also trying to fine tune some of its less sexy industries, such as textile machinery. The subsidies directed toward this industry do not yet appear to be very large, but they do signal that the central government views the upgrading of China's textile machinery sector as an important goal.

Resource acquisition

China's rapidly growing economy has an insatiable demand for energy and other resources. In order to ensure adequate access to resources, Chinese energy producers have gone on an international buying spree. One of PetroChina's subsidiaries has accumulated 71 oil and gas projects in 26 countries across Africa, Central Asia, Russia, the Middle East, South America, and the Asia-Pacific region. The state-owned parent is also acquiring foreign assets, often in places like Sudan, where shareholder-owned companies are less likely to tread. Coal producer Shenhua, until now largely focused on its China operations, Shenhua is planning to expand internationally in order to obtain reserves of scarce resources and become a leading international player. The aluminum producer Chalco and its SOE parent are also expanding beyond China to acquire ownership over needed resources.

Raising China's international profile

China's international forays are not limited to resource industries. The telecom firm CTC seeks to provide communications services to companies operating outside of China. The Chinese government is also promoting wireless standards based on Chinese developed technologies, encouraging the use of these technologies by domestic telecom providers, and hoping that the standard is adopted outside of China. It is using subsidies strategically to accomplish these goals. The SOE-owned construction company CEC competes internationally in the Middle East and India using Chinese labor.

Domestic consolidation and control

China is known for large companies, especially in its metals and petrochemical sectors. The petrochemical industry is dominated by a handful of large firms, but the industrial structure of the aluminum and steel industries are less concentrated. The Chinese government prefers a more concentrated industrial structure in these two industries, and it is using subsidies to provide the larger firms with competitive advantages. A relatively new tactic for encouraging consolidation is to use subsidies and other preferences to erode the competitive position of firms whose environmental performance is below what China's government deems acceptable.

Shift production and R&D facilities to China

China has briskly transitioned from the command and control economy of the 1970s and 1980s to the more market-based system of today. After quickly transforming from the "Soviet-style" system to the "workshop of the world," China set its sights higher. China's new goal is to become a first-tier powerhouse driven by dynamic innovation through cutting-edge technology and intellectual expertise. While relics of the old system remain in place and are protected, China has placed particular emphasis on its new objective. To effectuate its next leap forward, the government has put in place numerous policies and incentives to ramp-up investment and promote research and development.

China's mission to increase investment and research and development exists in tandem with its desire to protect certain industries and enterprises. China's "strategic," "pillar," or "heavyweight" industries are encouraged to increase research and development. The steel industry, a highly encouraged and protected industry, serves as a useful example of the types of subsidies and market protections provided to strategic industries. Like other strategic industries, most steel producers in China are owned and controlled by the state, and the Chinese government showers research and development subsidies on producers in the steel industry.

The Chinese government routinely promulgates policy dictums regarding encouraged industries, such as steel. For example, China's *Steel and Iron Industry Development Policy* explains that funds shall be made available "for research and other policy support for major iron and steel projects utilizing newly developed domestic equipment."[331] National and local authorities then enact the policies through various government agencies and bureaus.

China promotes research and development through many subsidy programs. In 2006, China filed its subsidy notification to the WTO. While the notification is deficient in many respects, China did report some subsidies which are directly related to encouraging research and development. Specifically, companies can deduct from their taxable income 150% of actual expenses incurred on the research and development of new products, new technologies, and new crafts, provided that expenses have increased 10% or more from the previous year.[332] In addition, enterprises profiting from technology transfers as well as from technology consultation, technology services, and technology training provided as part of the transfers can receive a tax exemption if the

[331] *Money for Metal: A Detailed Examination of Chinese Government Subsidies to Its Steel Industry*, July 2007 ("*Money for Metal*"), citing *Steel and Iron Development Policy*, Order No. 25 of the National Reform and Development Commission, July 2005 at Article 16 {emphasis added}.
[332] Terence P. Stewart, *China's Industrial Subsidies Study: High Technology Vol. 1* (April 2007) (hereafter, "CIS") at 38.

annual net income is less than RMB 300,000.[333] Further, science and technology oriented small and medium sized businesses can receive grants and loan interest discounts on a project specific basis. Each project is capped at RMB 1 million and in some cases at RMB 2 million.[334]

Subsidies for R&D and technological development are prevalent in the sample of firms discussed above. Angang, one of the largest state-owned steel producers in China, reported in its 2007 financial statements that it received tax exemptions totaling RMB 453 million for state-sponsored research and development activities, compared to RMB 337 million in 2006.[335] Jingwei, Chalco, Shenhua, and BlueChem also received subsidies for the explicit purpose of funding R&D or technological development. As explained in Part I, the Department of Commerce has also countervailed such subsidies.[336] Domestic aluminum producers have also been urged to strengthen their R&D efforts.

China's R&D subsidies have scored important successes with foreign firms as well. By 2004, there were 600 R&D centers established by multinational corporations.[337] A 2005 survey of multinational corporations indicated that China topped the list of future R&D expansion locations.[338] A study in 2007 by the Research Institute at China's Ministry of Commerce concluded that multinational corporations are the major force in

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[333] *Id*.
[334] *Id*.
[335] *Money for Metal* at 59, citing to Angang Steel Company Limited Annual Report at 103. Another steel producer, Jinan, reported in its 2005 financial statements that it received cash grants for research and development. See *Money for Metal* at 31, citing to Jinan's 2005 Annual Report.
[336] See **Table 5**.
[337] "Multinational Corporations Establish 600 R&D Centers in China," *AsiaInfo Services* (August 24, 2004).
[338] Steve Toloken, "China rapidly attracting more R&D dollars," *Plastics News* (June 12, 2006).

importing technology to China.[339] The heavyweight auto industry has scored at least three R&D facilities from GM alone.[340]

The data confirm that China has succeeded in its efforts to expand R&D activity. Since 1996, China's expenditures on research and development increased from RMB 40.45 billion to RMB 300 billion, or 0.6 to 1.4 percent of GDP.[341] This expansion is all the more impressive given China's rapid GDP growth during the period. China's trade flows offer further indication that it is moving up the value chain. High-tech exports reached nearly thirty percent of total exports in 2005.[342]

China plans to build on this success. In the *11th Five-Year Guideline for National Economic and Social Development*, China set out to increase "innovation" by increasing the ratio of research and development expenditure to two percent of GDP in conjunction with promoting intellectual property ownership and well-known brands.[343] In its *Guideline for the National Medium and Long-Term Science and Technology Development Plan*, the government set as a high priority the advancement of China into the rank of innovative countries by 2020.[344] In tandem, the *11th Five-Year Plan on Promoting Trade through Science and Technology* encourages the establishment of

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339 Jiang Wei, "Companies opt for sustainability," *China Daily* (February 7, 2007).

340 These include the GM Center for Advanced Research and Science in Shanghai's Pudong New Area; a nearby R&D center for alternative fuels, which broke ground in Shanghai during September 2008; and an R&D test center in Anhui Province, where construction will start during the first half of 2009. According to China's subsidies notification to the WTO, firms with investments in the Pudong area of Shanghai are eligible for preferential tax rates. "GM begins construction on $250 million R&D center in Shanghai," *Gasgoo.com* (September 17, 2008); and "Shanghai GM to build auto R&D center in Anhui," *SinoCast* (December 19, 2008).

341 CIS at 1, citing to *China Science and Technology Statistics (2006): R&D Expenditure* available at www.sts.org.cn/sjkl/kjtdt/data2006/2006-1.htm; *R&D Expenditure Reached 300 Billion Yuan in 2006*, Xinhua News, January 29, 2007 available at www.xinhuanet.com/fortune2007-01/29/content_5671044.htm.

342 CIS at 3, citing to *China Science and Technology Statistics (2006): High Technology* available at www.sts.org.cn/sjkl/kjtjdt/data2006/2006-5.htm.

343 *Id.* at 4-5.

344 *Id.*

research and development centers and the transfer of technology from foreign to domestic companies.[345]

Following the national policy in lockstep, Tianjin, for example, maintains several specific funding devices designed to encourage high-tech exports. Tianjin provides grants, interest assistance, and export credit insurance to reinforce the policy goal.[346] In another example, Beijing plans to create a special industrial park for science and technology with increased spending on research and development.[347] The firm CASIL, discussed above, is developing an aerospace technology park in Shanghai and an "aerospace technology building" in Shenzhen.[348] Both of these projects are being conducted in conjunction with municipal governments.

Despite the fact that China has placed significant emphasis on its own products, it nonetheless recognizes that foreign investment is an important component in its overall strategy to become a first tier economy. The transfer of technology from foreign investors can be just as important, if not more important at times, than the development of China's own technology. China attracts a wide variety of foreign investors. As such, it has developed a vast array of options to fill the disparate needs of those investors. China's special economic zones play an important role in this area.

The establishment of special economic zones dates back to Deng Xiaoping's era of reform. Beginning in the 1970s, China opted for a step-by-step approach for China's opening to the outside world. One important step in this reform was establishing special economic zones to encourage western investment. The goal of the zones was to entice

345 *Id.* at 8.
346 *Id.* at 12-13.
347 *Id.* at 11.
348 CASIL 2007 AR at 3-4.

investment through preferential policies. As time passed, more types of zones were established, each having specialized purposes.[349] Today, hundreds of specialized areas exist all over China. The specialized areas offer an a la carte menu for western investors looking for specific needs.

Table 25. Sample Types of Specialized Areas

High and New Technology Zones
Economic-Technological Zone
Processing for Export Zones
Special Economic Zones
Development Zones
Bonded Areas
Coastal Open Cities
Open Cities on Yangtze River
Provincial Capitals
Open Cities on Border Lands
Coastal Economic Open Regions
Yangtze River Three Gorges Zone
Frontier Economic Cooperation Zones
Tourist Resort Areas

Attracting investment from the west and increasing research and development are most appropriately addressed within regions designated for high and new technology and export processing areas. For example, firms looking to conduct research and development most often benefit from new technology zones located in and around Beijing and Shanghai because of the highly educated workforce.[350] On the other hand, for firms looking to utilize China's low-cost labor workforce for manufacturing, the benefits are best found in processing for export or developed and bonded areas. In such areas, firms can expect reductions in land-use fees, reduced income taxes, and exemptions from tariffs when importing inputs or technology.[351]

[349] Mark Williams and Peng Zhao, *The Explosive Growth of China Outsourcing: Opportunities and Challenges*, (2005) (hereafter, "Outsourcing") at 12.
[350] *Id.* at 13.
[351] *Id.* at 13 and 21 and www.china.ord.cn/english/5841.htm

While the national government encourages the development of zones, local governments often compete for business using every means at their disposal. The *China Daily* reported that Premier Wen Jiabao was concerned about environmental degradation because local governments routinely offer free or cut-rate real estate and utilities to developers.[352] Indeed, Jiangsu Province was censured by Beijing for violating "rules and regulations about protection of land and mineral resources" including "an unauthorized manner to expand development zones."[353]

Because the special zones usually fall under differing local jurisdictions, the specific subsidies provided vary from region to region.[354] However, some common themes can be identified. Most notable are subsidies stemming from special tax exemptions, reduction in land and utility costs, and low-cost financing. Sometimes direct cash grants are provided to companies that wish to locate in a specialized area. An example of the subsidies offered in such special areas is described below.

The Jiangsu Yixing Economic and Development Zone ("YEDZ") is located near Wuxi in Yixing City, Jiangsu Province.[355] The area is close to Shanghai and located near land and sea transport arteries.[356] The YEDZ has attracted over seven hundred domestic and overseas enterprises including firms from Holland, Italy, Japan, Thailand, Hong Kong and Taiwan.[357] The zone focuses on electric circuit and mechanization, textiles, fine chemicals, and auto parts.[358] Moving forward, the zone plans to place more emphasis on the development of emerging industries such as photoelectric materials, new

[352] *China to act on pollution, emission*, China Daily (April 28, 2007).
[353] *Id.*
[354] *Outsourcing* at 13.
[355] "Jiangsu Yixing Economic and Development Zone," at http://www.yxedz.com/other/en-index.asp.
[356] *Id.*
[357] *Id.*
[358] *Id.*

energy and new materials.[359] The zone implements all preferential policies stipulated by the local, provincial, and national governments and implements even more preferential treatment for newer industries.[360]

The YEDZ offers numerous incentives to firms located within its boundaries. National income taxes are generally waived to some degree for long periods of time.[361] Local taxes and surtaxes are waived indefinitely.[362] Land, water, and power suppliers are offered at cut-rate prices.[363] The zone will even construct a firm's workshops free of charge.[364] All VAT is rebated for the first three years and waived indefinitely on imported equipment.[365] Individual income taxes for foreign or senior management are rebated for ten years.[366] Further, the YEDZ offers high-level employees and technicians with living quarters at cost.[367]

The YEDZ is but one example of the vast array of economic development zones in China. The zones play an important part in China's policy plans. Both research and development and foreign investment depend, in part, on China's optimum use of the special economic zones.

Encourage domestic brands

Encouraging branding is an important component of the emphasis on research and development and its transition from a "workshop" economy. To encourage the development of its own brands at the expense of foreign brands, China offers a multitude

359 *Id.*
360 http://www.yxedz.com/other/en-01.asp
361 http://www.yxedz.com/other/en-01-02.asp.
362 http://www.yxedz.com/other/en-01-02.asp.
363 http://www.yxedz.com/other/en-yfzc.asp (downloaded August 2, 2008).
364 *Id.*
365 http://www.yxedz.com/other/en-01-02.asp.
366 *Id.*
367 http://www.yxedz.com/other/en-yfzc.asp.

of subsidies. The government's goal is to increase Chinese branded exports in lieu of foreign branded exports. In order to effectuate this goal, the government offers grants, export credit insurance, preferential funding, technological support, and assistance to develop research and development centers to support Chinese brand names.[368]

Most of these subsidies are substantial and may be considered prohibited, red-light subsidies (i.e., export subsidies). For example, the Ministry of Finance recently appropriated RMB 700 million to support research and development funding to develop new "famous brand" products for export.[369] In tandem, the State Administration for Quality Supervision, Inspection, and Quarantine encouraged local bureaus to offer financial support and export credit guarantees to world "famous brands." Provincial government followed suit, offering similar incentives.[370] Beijing's science and technology industrial park will have a strong emphasis on increasing exports and promoting the creation of firms producing "famous brands," secure in their intellectual property rights.[371] The seriousness of the branding issue has been elevated to the WTO. Both the United States and Mexico have recently requested consultations with China about the "Famous Brand" programs. Both countries maintain that such programs are prohibited export subsidies.[372]

Additional information about the program has been divulged in the preliminary determination in the CVD investigation of Citric Acid from China.[373] Producer Yixing Union received a "famous brands" lump sum grant from the government of Yixing City.

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[368] CIS at 52.
[369] *Id.* at 52-53.
[370] *Id.*
[371] *Id.* at 11.
[372] *United States Files WTO Case Against China Over Illegal Support for Chinese "Famous Brands"*, Fibernews, January 8, 2008, www.fibersource.com/f-info/More_News/CHina-121908.htm
[373] 73 FR 54377 (September 19, 2008).

To receive a grant, recipients must present a certificate of Famous Product of China or a Famous Product of Jiangsu Province. Thus, there are three levels of government potentially involved in this program: central, provincial, and municipal. According to information submitted by the Chinese government during the investigation, there 34 companies received a Famous Brands Award during 2005 to 2007, though it is not clear if this count is limited to recipients from Jiangsu province.

Part III: Competitive Impact of Chinese Subsidies on U.S. Firms

Introduction

The Chinese subsidies discussed in this study have a variety of effects on economic activity in China. In general, subsidies increase the amount of a product that is produced and consumed.[374] Subsidies contingent on trade are considered the most distorting, but subsidies that reduce input costs, such as the cost of electricity and the cost of money, and shift investment in plant and equipment from one country to another may also influence trade flows. Such subsidies encourage production that can both replace imports and lead to higher export levels than would otherwise be the case.

Analyses indicate that Chinese subsidies to support state-owned firms and to attract foreign enterprises have affected trade flows. Studies have found that multinational corporations respond to preferential tax rates.[375] In China's case, where FDI has been actively drawn to export-oriented economic zones, foreign invested enterprises are responsible for the majority of exports.[376] Data in the *World Investment Report 2008* indicate that exports from foreign affiliates in China rose by more than $200 billion from 2005 to 2005.[377] One study also found that the real exchange rate between the Japanese Yuan and the Yen was a significant driver of Japanese manufacturing-oriented FDI in China.[378] An MIT study analyzed the relationship between China's

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[374] Robert S. Pindyck and Daniel L. Rubinfeld, *Microeconomics*, 6th edition (2006) at 329.
[375] See, for example, J.R. Hines, "Tax Policy and the Activities of Multinational Corporations," NBER Working Paper 5589 (May 1996).
[376] According to Chinese trade statistics, foreign-funded enterprises accounted for 55.6 percent of total Chinese export value from January to October, 2008.
[377] United Nations Conference on Trade and Development, *World Investment Report 2008—Transnational Corporations and the Infrastructure Challenge* (2008) at 285.
[378] Yuqing Xing, "Why is China so attractive for FDI? The role of exchange rates," *China Economic Review* 17 (2006) 198-2009.

subsidies to state-owned enterprises and exports using data from thirty provinces covering the late 1990s. Regression analysis found a persistent positive relationship between known subsidies to SOEs and their exports, "especially for those provinces that have made the overwhelming share of China's exports."

As this report has demonstrated, subsidies in China span a variety of industries and are given for a number of reasons by the central government and sub-national governments. Rather than attempt to measure the impact of all subsidies in all industries, the approach here considers three aspects of Chinese subsidies: subsidized electricity prices (*i.e.*, provision of electricity at less than adequate remuneration) to aluminum producers in China; subsidies to absolute control and heavyweight industries; and the potential impact of subsidies that encourage foreign investment in China by U.S. manufacturers, at the expense of investment in the United States. The economic effects presented include changes in exports, imports, domestic sales, employee earnings, and economic welfare.

These targeted effects are estimated using the Global Trade Analysis Project ("GTAP") global database applied to a multi-region, applied general equilibrium modeling framework also developed by GTAP.[379] This report employs the recently released version 7 of the database, which includes production, trade, and macroeconomic data for 113 regions and 57 economic sectors in 2004.[380] The model is implemented

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[379] For an in depth description of the structure of the GTAP model, *see*, Thomas W. Hertel, ed., *Global Trade Analysis: Modeling and Applications* (Cambridge University Press, 1997). The last two iterations of the database are described in Betina V. Dimaranan, ed. *Global Trade, Assistance, and Production: The GTAP 6 Data Base* (Center for Global Trade Analysis, Purdue University, December 2006); and Badri Narayanan G. and Terrie L. Walmsley, eds., *Global Trade, Assistance, and Production: The GTAP 7 Data Base* (Center for Global Trade Analysis, Purdue University, December 2006).

[380] There are 226 countries included in GTAP. Many of the countries are aggregated into regions, such as Rest of Central Africa, Rest of Middle East, the Caribbean, Rest of Oceania, and Rest of West Asia, for

using the GEMPACK software suite and can be run using the RunGTAP software program. Other software modules enable users to create new regions and sectors from the existing regions and sectors in the GTAP 7 database.

A general equilibrium model is a useful tool for analyzing the effects of economic policy changes on the overall economy, specific economic sectors, trade flows, and even the global economy. The model initially reflects a global economy in equilibrium--that is, prices for goods, services, and factors are at equilibrium so that supply and demand are equal. To implement a policy change, such as a tariff or subsidy, or a change in a factor input reflecting an incentive, the model is "shocked" into a state of disequilibrium. Prices and quantities adjust to a new equilibrium, with different levels of exports, imports, production, employment, consumption, investment, and GDP. Because the model incorporates sector specific information, it is able to capture both upstream and downstream changes associated with a given policy change.

Economic Effects of Chinese Subsidies

To conduct policy simulations using the GTAP model and database, the modeler aggregates the regional and sector components of the database, sets a model closure that is appropriate for the simulations being run,[381] and applies the desired policy "shocks". The database has been aggregated into 16 economic sectors and 6 regions, and includes 5 factors of production. The 6 regions are USA; China; the Western Pacific Rim ("WestRim"); Western Hemisphere ("WestHem"); Europe; and Western Asia, Africa, and the Middle East ("WAM"). The 16 sectors are electricity, energy, petrochemicals,

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example. All significant economies are included in the database. See Badri Narayanan G. and Terrie L. Walmsley at 2-2 to 2-7.

[381] The term closure reflects the choice between exogenous and endogenous variables. The GTAP model is flexible enough to accept partial equilibrium and general equilibrium closures. The latter ensures that all markets in the model "clear."

air and sea transportation, communications, machinery, autos, electronics, construction, steel, aluminum, other utilities, agriculture and food, other extractive industries, other manufactures, and other services. The five factors of production are land, unskilled labor, skilled labor, capital, and natural resources. A more detailed description of the regional and sector aggregations and experiments are available in **Appendix 6**.

Experiment 1: Reduce subsidy on electricity prices to the aluminum industry in China

Chalco and other large aluminum producers purchased electricity at subsidized prices through 2007. This benefit was expected to end in 2007, and prices paid have risen somewhat. However, recent government pronouncements indicate that producers will continue to receive preferential prices, as well as other benefits. It is generally acknowledged that artificially low energy prices subsidize manufacturing, especially energy intensive manufacturing, in China.[382] As electricity costs are a major cost in aluminum production, this subsidy has enabled the Chinese aluminum industry to produce more, and export more, than it would have without preferential prices.

To assess the competitive impact of this subsidy, we eliminate the subsidy on electricity prices paid by aluminum producers in China. Since Version 7 of the GTAP Data Base does not incorporate this subsidy, we use the *alter tax* routine to create a new database that imposes a subsidy equivalent to 10 percent of the value of electricity purchased by the aluminum sector.[383] The figure of 10 percent is a reasonable approximation. The government of China increased electricity prices by 4.7 percent in

[382] C. Fred Bergsten, Charles Freeman, Nicholas R. Lardy, and Derek J. Mitchell, *China's Rise: Challenges and Opportunities*, Peterson Institute for International Economics (September 2008) at 116.
[383] This routine incorporates the subsidy without significantly changing other cost and sales shares. See Gerard Malcolm, "Adjusting Tax Rates in the GTAP Data Base," GTAP Technical Paper No. 12, 1998.

mid-2008 and announced an additional 5 percent increase in the summer.[384] Chalco further indicated that its average price had increased 3.2 percent in 2007.[385]

Based on economic theory, removing this subsidy should increase the marginal cost of producing aluminum in China. Some consumers of aluminum in China and elsewhere will purchase foreign aluminum instead of Chinese aluminum. Thus, one would expect Chinese aluminum exports to decline and aluminum imports to increase. Facing a more level playing field at home and abroad, the U.S. aluminum industry would be expected to see its home market sales and exports increase. The rise in U.S. production would be expected to increase demand for factors of production, such as labor, that are required to produce aluminum in the United States.

The results of this simulation are shown below.[386] As theory predicts, China's aluminum exports decline while imports increase. In the U.S. market, imports from China decline, while the U.S. industry's sales into the U.S. market increase. U.S. aluminum exports rise by nearly $100 million to help fill the void left by China in other markets. The simulation results also indicate that U.S. returns to labor increase by approximately $30 million. The trade balances of the United States and China also change. The U.S. sees its balance improve by $32 million, while China's declines by $179 million.

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[384] "China raises power prices amid shortages," *AP Worldstream* (2008). HighBeam Research. 13 Jan. 2009 <http://www.highbeam.com>.
[385] Chalco 2007 20-F at 29.
[386] The experiment is performed on 2004 data because that is the latest year for which the GTAP Data Base is available.

Table 26. Impact of eliminating a 10 percent subsidy on electricity purchases by China's aluminum producers

Item	Impact
U.S. data	*$ millions*
Domestic sales	74.24
Aluminum exports	96.83
Aluminum imports from China	-73.60
Labor earnings	30.53
Balance of goods and services	32.48
Chinese data	
Aluminum exports	-757.61
Aluminum imports	600.44
Balance of goods and services	-178.84

In percentage terms, the effects on the domestic aluminum industry are not large. However, this should be seen in context of the other subsidies received by the aluminum industry. As demonstrated in **Table 24**, Chalco, the largest company in the industry, also benefits from preferential lending and favorable tax rates. The next experiment considers some of these other subsidies across a range of industries.

Experiment 2: Reduce subsidies to capital investment

Given the Department of Commerce's findings in China subsidy investigations, as well as the subsidies acknowledged in the annual reports herein, it is clear that subsidization in China is widespread. However, not all businesses in China are treated alike. Many investigations have found that subsidies such as preferential lending are conferred upon firms that are in favored industries subject to state promotional policies. The Department has also found several subsidies aimed at firms funded by foreign investments. This pattern is born out by the subsidies discussed in **Part II**, where all the strategic and heavyweight firms have varying degrees of "foreign" capital. Wholly-owned Chinese firms, not just foreign governments, have complained that the preferences provided to foreign investors, state-owned firms, and promoted industries and firms are unfair to companies that do not receive such favors. Indeed, truly privately owned domestic firms in China often find it difficult to borrow from state-owned banks.[387]

However, this dichotomy in Chinese economic policymaking is less of a problem when the industries in question are strategic and heavyweight industries. The NDRC and SASAC have clearly stated that the state is to maintain "absolute control" over strategic industries and meaningful control over heavyweight industries. Foreign firms are present in some of these industries, particularly in the form of joint ventures in the automotive and info-tech/electronics industries, but other strategic and heavyweight industries are predominantly under the control of the Chinese government.[388] This means that the potential distortion posed by extrapolation of subsidy levels to the whole industry is minimized.

Thus, in **Experiment 2** we apply a set of policy shocks that reduces the subsidies received by the strategic and heavyweight industries.[389] To simulate a reduction of subsidies, we apply higher output taxes to these industries. This methodology is appropriate because:

- Many of the subsidies offered are tax-related; and
- A higher output tax raises the price that consumers would pay for the industry output, which also would be the case if the firms experienced higher costs due to market-based interest rates and an end to government grants.

[387] Kellee, S. Tsai, *Back Alley Banking: Private Entrepreneurs in China* (Cornell University Press, 2002).
[388] Steel is an exception in that some truly private firms do participate, but the government has yet to allow a single major domestic producer to fall under foreign control. Moreover, many of the firms with a proportion of shares held by the public are owned by firms that are ultimately controlled by provincial or municipal SASACs.
[389] The armaments industry is excluded because it is not treated as a separate industry in the GTAP database.

The policy shocks applied to the model differ from the subsidies calculated in **Part II**. The subsidy rates in Part II contained the full value of all subsidies, but the shocks applied to the model only reflect the value of subsidies attributed to 2007. For subsides that are intended to be amortized over time (so-called non-recurrent subsidies) such as debt forgiveness, provision of assets at less than adequate remuneration, and any subsidy treated as deferred income on the balance sheet, the subsidy value is divided by 15.[390] These CVD rates are shown in the following table according to their strategic and heavyweight designation.

[390] The Department's valuation methodology calls for the value of large non-recurrent subsidies to be distributed over the average useful life ("AUL") of the asset. To simplify calculation, an AUL of 15 years is assumed for all non-recurring benefits.

Table 27. Estimated countervailing duty rates for sample companies from strategic and heavyweight industries

	Estimated CVD Rates
Armaments	
AviChina	1.4%
Casil	5.9%
Energy	
HPI	6.7%
Oil & petrochemicals	
PetroChina	4.4%
BlueChem	14.2%
Communications	
CTC	1.8%
Coal	
Shenhua	5.2%
Civil aviation	
Air China	1.8%
Shipping	
COSCO	2.5%
Machinery	
JTI	2.1%
Automobiles	
DMG	2.6%
Information technology	
CEC	0.8%
IGE	2.8%
Construction	
CTCI	0.9%
Ferrous and non-ferrous metals	
Anang	1.1%
Chalco	4.1%

These company specific rates are used to develop the appropriate shocks for **Experiment 2**. The specific rate for each industry is the simple average of the relevant companies from Part II, with firms owned by armaments producers distributed to other industries. The CVD rates used to shock the model are shown in **Table 28**.

Table 28. Countervailing duty rates used in Experiment 2

Sector	Company	Rate
Electricity	HPI	6.7%
Energy	HP, PetroChina	5.5%
Petrochem	PetroChem, BlueChem	9.3%
Trans	AirChina, COSCO	2.1%
Comm	CTC	1.8%
Machinery	JTI	2.1%
Autos	DMG, AviChina	2.0%
Electronics	CEC, IGE	1.8%
Construction	CTCI, CASIL	3.4%
Steel	Anang	1.1%
Aluminum	Chalco	4.1%

These industries constitute a significant portion, 35 percent, of China's output in 2004. As such, eliminating subsidies would be expected to have a meaningful impact on China's economy, and on U.S. companies competing with Chinese firms. Chinese energy prices would rise, which would increase costs across the economy. Capital goods prices in China would rise, as would the prices of inputs such as steel and aluminum. Producers of final goods, such as car makers, would experience higher prices across the full range of intermediate inputs. Price increases, all things equal, would reduce demand both in China and abroad, for Chinese-made products. However, to the extent that the decline in subsidies reduces China's demand for foreign goods, there will be feedback effects that have a depressing effect on U.S. economic activity. Also, the exports of countries that use China as a processing zone likely would be adversely affected as well. Due to these countervailing factors, the net effect of reducing China's subsidies is not entirely clear *a priori*.

Experiment 2 reviews the medium term impact of removing Chinese subsidies. In this experiment, capital stock is assumed to be fixed in all regions, while labor is mobile. This simulation is summarized in **Tables 29-31**. Domestic sales by U.S.

industries rise in the United States by approximately $81 billion, while worker earnings rise by $31 billion. U.S. exports of strategic and heavyweight industries expand by $7.6 billion, while imports from these same industries decline by $9 billion. The overall balance of goods and services trade declines, which indicates that imports have risen in other industries. For China, exports from the favored industries shrink by $31.8 billion while imports expand by $3.4 billion

Table 29. Impact of reducing subsidies in China's strategic and heavyweight industries

Item	Impact
U.S. data	*$ millions*
Domestic sales	80,998
Exports (strategic/hwgt)	7,609
Imports from China (strategic/hwgt)	-8,984
Labor earnings	30,676
Balance of goods and services	-7,219
Chinese data	
Exports (strategic/hwgt)	-31,750
Imports (Strategic/hwgt)	3,438
Balance of goods and services	20,692

Table 30 contains data on the performance of competing U.S. industries. In all, these industries experience an increase in domestic sales of $30 billion, with a range of $250 million to $7.5 billion.[391] The large output gain of the construction industry in particular reflects not only private demand for construction services, but also U.S. government demand.[392] Lower subsidies in China also affect U.S. price levels, illustrated by a 0.39 percent increase in the U.S. GDP price index.

[391] The large increase in construction output reflects not only

[392] This simulation did not fix government spending in the United States.

Table 30. Impact on U.S. industries of reducing subsidies in China's strategic and heavyweight industries

Sector	Change in Domestic Sales
	$ millions
Electricity	1,321
Energy	985
Petrochem	7,483
Transportation (air and sea)	912
Communications	1,737
Machinery	3,927
Autos	1,951
Electronics	3,139
Construction	7,536
Steel	250
Aluminum	343
Total	29,584

In short, the medium run scenario appears to validate the belief of many U.S. industry players that Chinese subsidies are harmful to their businesses. On the other hand, consumers and businesses likely benefit by purchasing lower priced consumer goods and intermediate inputs from China.

How, then, to judge the outcome of this scenario? Economists typically use the concept of economic welfare to assess the impact of a policy change on a national economy. In general, welfare is a measure of economic efficiency. It can be raised by removing certain economic distortions, improving productivity, improving how resources are allocated, and by expanding factor endowments, such as capital. Positive changes in welfare are frequently cited by economists as a rationale in support of free trade agreements.

Table 31 summarizes welfare effects by region.[393] U.S. welfare increases when Chinese subsidies are reduced, while China's welfare declines. All other regions experience higher levels of welfare as a result of China reducing its subsidies to strategic and heavyweight industries.

Table 31. Welfare effects from the medium-run simulation

Region	Allocative Efficiency	Terms of Trade	Other	Total
	$ millions			
USA	792.9	769.1	148.6	1,710.6
China	-5,251.6	-3,761.9	430.0	-8,583.5
WestRim	2,219.5	933.5	-106.9	3,046.1
WestHem	446.5	-229.1	-11.2	206.2
Europe	3,554.3	1,857.2	-88.9	5,322.5
WAM	631.7	387.3	-8.9	1,010.1
Total	2,393.3	-44.0	362.7	2,712.0

Experiment 3: Reduce subsidies to capital investment and reverse changes to capital stock

The simulation in **Experiment 2** only tells part of the story. Aside from making Chinese firms more competitive, Beijing's subsidy policies have attracted vast amounts of foreign direct investments. According to the *World Investment Report*, China has been a leading destination of foreign direct investment among developing countries.[394] Although the potential gains from serving a growing Chinese market undoubtedly motivated increased investment, much investment was directed toward China's export promotion zones. As a result, foreign invested firms account for the majority of China's exports. Foreign direct investment geared toward serving the Chinese market would be largely beneficial to the U.S. and Chinese economies, as research has shown that such investments promote U.S. exports of goods and services. On the other hand, the

[393] In GTAP, the measure of overall welfare is equivalent variation.
[394] *World Investment Report 2008* at Annex table B1.

establishment of export-oriented facilities in China that essentially replace U.S. activities with activities in China may have adverse consequences not only for displaced U.S. workers, but for the overall U.S. economy.

The literature on offshoring tends to focus on the cost savings, the improved allocation of resources, and the gains from trade resulting from comparative advantage.[395] When such analyses are applied to the case of China, one fundamental question arises: Why has China offered lucrative subsidies to foreign investors if such subsidies were not needed to attract foreign investment in the first place? The answer, as discussed in Part II, is that such subsidies and other preferences were part of China's overarching strategy to attract foreign investments in order to promote economic growth through exports and technological advancement through technology transfer.

China's success in attracting foreign investment has coincided with a sharp reduction in the growth of U.S. capital stock in manufacturing industries. **Table 32** shows trends in capital expenditures by U.S. majority-owned affiliates in China. These data understate the U.S. presence in China because caps on foreign ownership in key sectors frequently limit the foreign ownership stake to 50 percent, preventing U.S. majority ownership. Nevertheless, the trend is clear: capital expenditures by U.S. manufacturers in China is rising rapidly, and value added in China even more rapidly.

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[395] See, for example, Council of Economic Advisors, *Economic Report of the President 2004* (February 2005) at 226-227; and McKinsey Global Institute, Offshoring: Is It a Win-Win Game? (August 2003) at 7-9.

Table 32. Capital expenditures in manufacturing industries by U.S. majority-owned nonbank foreign affiliates in China

Industry	Capital Expenditures							
	1999	2000	2001	2002	2003	2004	2005	2006
	$ millions							
Manufacturing	1,202	1,145	1,005	1,439	918	1,869	2,486	2,656
Food	29	32	34	30	23	33	84	99
Chemicals	572	384	284	261	174	313	474	602
Primary and fabricated metals	30	22	30	38	24	42	52	221
Machinery	69	34	42	57	52	84	89	107
Computers and electronic products	223	373	378	813	342	694	1,013	923
Electrical equipment, appliances, & components	56	53	48	53	71	84	203	201
Transportation equipment	67	83	39	39	59	108	209	147
Other manufacturing	156	164	150	148	173	511	362	356
	Value Added							
Manufacturing	3,172	4,381	4,583	5,414	6,352	8,368	11,160	12,230
Food	91	145	186	175	263	348	405	545
Chemicals	740	872	1,091	1,412	1,330	1,648	3,007	2,758
Primary and fabricated metals	132	142	147	178	242	244	342	356
Machinery	131	211	245	348	466	742	889	1,120
Computers and electronic products	1,364	2,015	2,109	2,123	2,123	2,550	4,273	4,556
Electrical equipment, appliances, & components	344	389	199	395	480	612	618	817
Transportation equipment	74	135	141	268	339	398	434	635
Other manufacturing	296	472	465	515	1,109	1,826	1,192	1,443

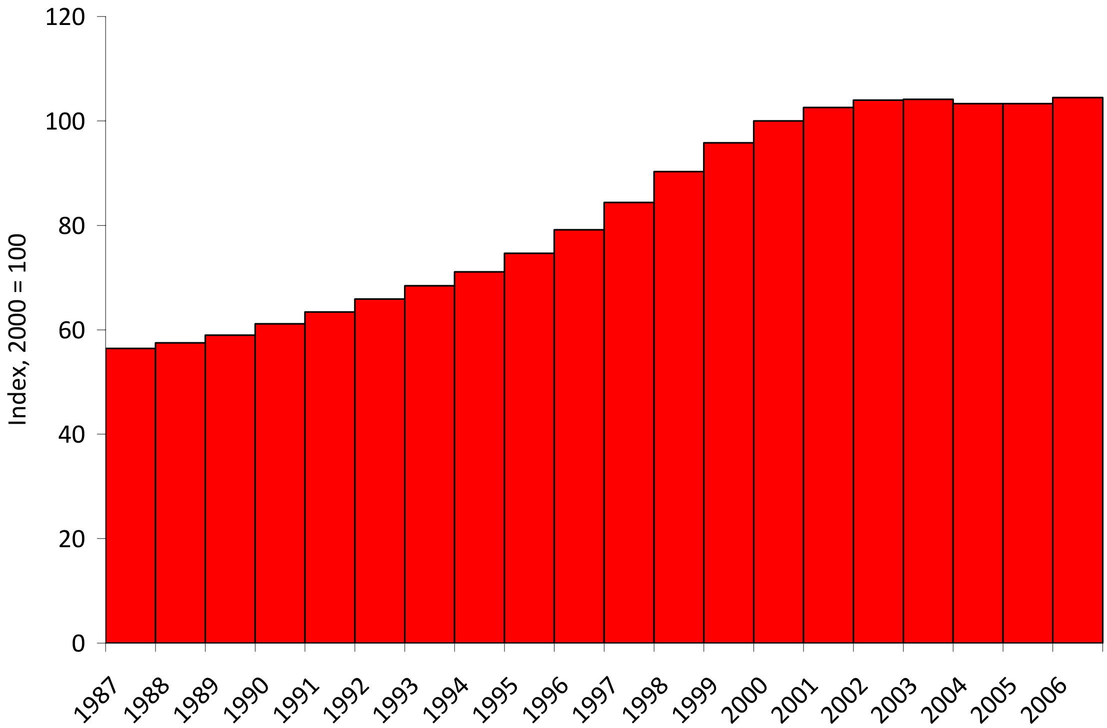
Source: U.S. Bureau of Economic Analysis at http://www.bea.gov/international/index.htm#iip.

While U.S. investments and output in China have been expanding, investments by manufacturers in the United States have been stagnant. This is demonstrated by data on U.S. capital stock of equipment in manufacturing maintained by the U.S. Bureau of Labor Statistics. **Figure 1** illustrates that the stock of equipment in manufacturing has stagnated during 2001 to 2006, a time of rising trade deficits with China and growing U.S.-driven investments in the Chinese economy.[396] Had U.S. manufacturing behaved during 2000-2006 as it did during 1990-1996, a comparable period that also included a recession, the level of equipment stock would have been 27 percent higher by 2006. In

[396] Stagnating capital stock means that new investments in plant and equipment are barely keeping pace with depreciation. It is not strictly comparable with the flow data presented for China. However, given the rising annual investment levels in China and relatively new age of U.S. investments there, the stock of equipment in China is undoubtedly rising rapidly.

the growth-accounting framework of analysis, economic growth results from expanding capital stock, labor hours, and/or productivity-type factors.[397] Given the stagnation in the stock of U.S. equipment in manufacturing, the performance of manufacturing, in particular its ability to serve domestic demand, has been seriously compromised.

Figure 1. Stock of equipment at U.S. manufacturers, 1987-2006



Source: U.S. Bureau of Labor Statistics at http://www.bls.gov/mfp/mprdload.htm.

Experiment 3 seeks to incorporate this dynamic into **Experiment 2**. This is accomplished by reducing the capital stock in China and increasing capital stock in the United States. First, we assume that capital stock in China would have been 5 percent lower in China absent China's subsidies and FDI inducements. We then distribute this

[397] Robert M. Solow, "Technical Change and the Aggregate Production Function," The Review of Economics and Statistics, Vol. 39, No. 3. (Aug., 1957), pp. 312-320.

amount to the capital stock of U.S. industries.[398] The results of this experiment are summarized in **Tables 33-35.**

Table 35 demonstrates that reversing China's subsidies and the resulting shifts in capital stocks lead to a further improvement in the U.S. economic performance compared with **Experiment 2**. Domestic sales from U.S. industries expand by $95 billion, and in the industries that China deems strategic and heavyweight, U.S. exports expand by $22 billion, and imports from China decline by $13 billion. Labor earnings and the trade balance improve, though the increase in earnings is lower than for **Experiment 2**.[399] China's trade balance improves, but the exports of the strategic and heavyweight industries decline by $44 billion.

Table 33. Impact of reducing subsidies in China's strategic and heavyweight industries and reversing shifts in capital stock

Item	Impact
U.S. data	*$ millions*
Domestic sales	94,618
Exports (strategic/hwgt)	21,929
Imports from China (strategic/hwgt)	-12,930
Labor earnings	24,527
Balance of goods and services	26,137
Chinese data	
Exports (strategic/hwgt)	-43,729
Imports (Strategic/hwgt)	-4,407
Balance of goods and services	7,602

Table 34 details how U.S. industries disadvantaged by Chinese subsidies perform once those subsidies are reduced and capital stock increases. In all, domestic sales rise by $39 billion and individual industries experience gains ranging from $835 million to $12.1 billion. **Table 35** summarizes the changes in welfare by country. Welfare in the

[398] Specifically, capital stock in China was shocked by -5 percent and the capital stock in the United States was shocked by 1.9333 percent. This increase in U.S. capital stock is far smaller than the shortfall illustrated in **Figure 1**.
[399] This occurs because a larger share of factor earnings must go to the expanded capital base.

United States rises by $33 billion while welfare in China declines by a similar amount. The economies of other regions also experience welfare gains. The U.S. gains in the capital stock scenario significantly exceed those from **Experiment 2**. This outcome suggests that the elimination of any market distortions that lead U.S. firms to replace U.S. investments with investments in China would have beneficial effects on the comparable U.S. industries, and on the U.S. economy overall.

Table 34. Impact on U.S. industries of reducing subsidies in China's strategic and heavyweight industries and reversing shifts in capital stock

Sector	Change in Domestic Sales
	$ millions
Electricity	1,266
Energy	2,003
Petrochem	12,110
Transportation (air and sea)	1,438
Communications	880
Machinery	6,494
Autos	2,480
Electronics	8,440
Construction	835
Steel	1,522
Aluminum	1,654
Total	39,121

Table 35. Impact on national welfare of reducing subsidies in China's strategic and heavyweight industries and reversing shifts in capital stock

Region	Change in Welfare
USA	33,070
China	-33,647
WestRim	3,727
WestHem	1,640
Europe	8,140
WAM	762
Total	13,692

Recent Trends Chinese State Support

China has been reducing state support in order to avoid a significant backlash against its export promotion policies.[400] The elimination of subsidies that supported exporters has been a positive and necessary development, positive because it provides much needed breathing room in competing labor markets where China's policy-driven exports were wreaking havoc and necessary because a reduction in policy-driven support facilitates trade according to comparative advantage, not government largesse. However, because many Chinese producers could not have exported as much as they did without subsidies and an undervalued currency, reductions in subsidies and a stronger Yuan are having predictable impacts on Chinese exporters: they are making less money and in some cases going out of business.[401]

China's steps to reduce state support for the expansion of manufacturing and exports were made at a time when China's exports were expanding rapidly and the country's annual GDP growth regularly exceeded 10 percent. Now that growth in China has begun to moderate, China has begun to renew support for its exporters. Provincial governments are rescuing exporters who would otherwise go out of business.[402] The central government has halted the appreciation of the Yuan, begun reinstituting export

[400] Steven R. Weisman, "China agrees to end a dozen subsidies that trouble trade relations," *International Herald Tribune* (November 29, 2007).

[401] See, for example, Fu Yanyan, "Panic, Shutdowns Spread in Toy Industry," *Caijing Magazine* (October 23, 2008); and "China considers increasing some steel export rebates," *Steel Business Briefing* (October 24, 2008). Twenty-three of China's 71 major mills were running at a loss even before the full weight of the global slowdown had hit China's steel industry.

[402] See, for example, Shen Hu, "Textile Firms Getting Government Bailouts," *Caijing Magazine* (October 22, 2008). "Authorities in Shaoxing, a Zhejiang Province city in the heart of eastern China's textile manufacturing region, are ready to rescue teetering textile companies struggling to pay their debts. Feng Jianrong, vice governor for the city's Shaoxing County, which is also one of China's wealthiest counties, said the local government would bail out four private enterprises, regardless of cost."

rebates, and leaned on government-owned banks to provide loans to uncreditworthy borrowers.[403]

This policy reversal reveals that GOC export support played a significant role in supporting rapid Chinese export growth. Even prior to the global financial crisis, Chinese producers whose export expansion depended on direct government support and the weak currency were experiencing trouble. Some of these difficulties, such as high levels of lead in toys, cannot be attributed to a reduction in state support for exporters. However, press reports from China indicate that higher costs were contributing importantly to the troubles of Chinese exporters prior to the global recession.[404] These higher costs reflect a reduction in policy support, as the GOC allowed electricity prices to rise closer to market levels, changed the labor law in ways that resulted in higher Chinese wages, and allowed the Yuan to appreciate. The latter is critical to an adjustment of global imbalances because a stronger Yuan raises China's costs relative to the costs of competitors in the United States and other countries whose workers have born the brunt of China's support for Chinese exporters. This is why marginal Chinese exporters were being squeezed prior to the financial crisis.

If China's subsidy reversal enables these policy-dependent exporters to renew their competitiveness in international markets, worker dislocations in competing U.S. industries will continue.

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[403] See, for example, "China considers increasing some steel export rebates," *Steel Business Briefing* (October 24, 2008); and Yan Jiangning, "Sewing Machine Manufacturer Rattling Crisis," *Caijing Magazine* (June 5, 2008). From July 10, 2008 to March 16, 2009, the Yuan's noon buying rate in New York City has been in the band between 6.78 and 6.89 per dollar.

[404] See, for example, Fu Yanyan, "Panic, Shutdowns Spread in Toy Industry," *Caijing Magazine* (October 23, 2008). "Profit margins for toy manufacturers have been squeezed by rising production costs and increasingly fierce competition *in the past two years*. Statistics show production cost for toymakers since 2007 have increased around 60 percent, even though revenues from international orders have remained unchanged." (Italics added.)

Conclusions

The Chinese economy has made a remarkable transition during the past 30 years. Its once communist, isolated economy is now a major participant in global markets. Its firms export a wide variety of products, form joint ventures with non-Chinese multinational corporations, and raise money by offering shares in Chinese and foreign stock exchanges.

Yet despite these dramatic reversals, the Chinese government continues to exert significant control over important aspects of China's economy. In case anyone was unsure about China's intent, the government erased all doubt when it announced its list of strategic and heavyweight industries in December 2006. The strategic industries, military, electric power and distribution, oil and petrochemicals, coal, civil aviation, and shipping will be wholly-owned or absolutely controlled by the state. The state is also to maintain relatively strong control over heavyweight industries, such as machinery, motor vehicles, information technology, construction, and ferrous and non-ferrous metals. These are major industries in China and the United States.

This study reviewed 16 firms from these industries whose shares are listed on the Hong Kong Stock Exchange, as well as other international markets. These firms have private shareholders, but according to official financial statements, the Chinese government holds the majority of shares through state-owned enterprises. Thus, no one should be deluded into thinking that listed shares shield Chinese firms from government control.

The review conducted for this report also demonstrates that China uses market incentives to achieve the state's goals for the Chinese economy. China is an active user of targeted incentives such as preferential lending, preferential tax rates, and government grants. These incentives are used to attract foreign firms, encourage research and development, restructure certain industries, prolong the life or transfer ownership of failing firms, encourage the use of domestic equipment, promote the development of selected industries, provide cheap inputs to favored companies, to promote economic development in certain regions, and to counteract the adverse economic effects of price controls.

To determine the scale of these subsidies, this study examined countervailing duty investigations of Chinese subsidies performed by the Department of Commerce and corporate annual reports to shareholders. Both sources indicate that subsidies can vary widely from firm to firm and industry to industry. A good ball park range is 1.5 to 10 percent of revenue, though there were certainly instances when subsidies were much higher, especially when debt forgiveness was involved. It is also possible that the range is higher, because not all incidents of subsidization are detailed in the annual reports.

This subsidy range may understate the benefits available to U.S. and other Western firms that have invested in China. Many of the subsidies China offers confer benefits on firms that contain foreign investment. Such companies are often attracted to promotional zones where investment in high technology industries and export oriented industries is encouraged. The benefits to foreign firms that invest in these zones are potentially more lucrative than the ones encountered in our review of strategic and heavyweight firms. U.S. data on foreign investment by majority-owned affiliates of U.S.

companies operating in China demonstrate that Chinese subsidies are potentially diverting resources to develop and produce products to China and away from the United States.

As China's role in the global economy increases, so will the role played by firms subsidized and controlled by Beijing. If these subsidies persist, they will continue to provide Chinese firms with a significant competitive advantage vis-à-vis U.S. firms. In addition to this competitive advantage, U.S. firms must be aware that decisions made by Chinese competitors from strategic and heavyweight industries could reflect government incentives and control, not market incentives and profit. The possibility that Chinese firms in government controlled and heavyweight industries would sacrifice economic profits to achieve official aims should not be discounted.

This study has sought to quantify how Chinese subsidies to strategic and heavyweight industries affect U.S. industries and the U.S. economy overall using the GTAP applied general equilibrium model and database. The first simulation demonstrates that eliminating a single input subsidy to the aluminum industry in China would increase U.S. sales of aluminum to the U.S. market, reduce aluminum imports from China, and increase the earnings of U.S. workers in the aluminum industry. At the same time, China's aluminum exports to the world would decline, its aluminum imports from the world would increase, and its trade surplus overall would decline.

The second simulation demonstrates that the elimination of Chinese subsidies consistent with those observed in the annual reports would increase U.S. sales in the U.S. market by approximately $80 billion. U.S. exports would also increase. While the elimination of the subsidies would lead to an increase in the overall level of prices in the United States, overall U.S. economic welfare increases.

The third simulation considered the possibility that the stagnation in the stock of equipment in U.S. manufacturing during the 2000-2006 period has occurred because U.S. manufacturers have invested in China instead of the United States. When a small portion of Chinas capital stock is diverted back to the United States, the gains to the U.S. economy from the removal of Chinese subsidies are even greater.

For many years, the U.S. government did little to address Chinese subsidies. In recent years, however, the U.S. government has sought to eliminate these subsidies through action at the WTO and by reversing a longstanding policy of not investigating subsidies from China. The WTO cases have brought about policy changes by the Chinese government that should reduce the pronounced policy tilt in favor of foreign investment. The USTR is now addressing China's "famous brands" program at the WTO, with the support of many other concerned countries

The Department of Commerce has investigated Chinese subsidies in several industries, and many of these investigations have led to countervailing duties being placed on the imports of subsidized Chinese firms. For U.S. industries in competition with such firms, these U.S. government actions are a very welcome development.

Appendix 1: Illustrative List of Export Subsidies, Agreement on Subsidies and Countervailing Measures

(a) The provision by governments of direct subsidies to a firm or an industry contingent upon export performance.

(b) Currency retention schemes or any similar practices which involve a bonus on exports.

(c) Internal transport and freight charges on export shipments, provided or mandated by governments, on terms more favourable than for domestic shipments

(d) The provision by governments or their agencies either directly or indirectly through government-mandated schemes, of imported or domestic products or services for use in the production of exported goods, on terms or conditions more favourable than for provision of like or directly competitive products or services for use in the production of goods for domestic consumption, if (in the case of products) such terms or conditions are more favourable than those commercially available(**57**) on world markets to their exporters.

(e) The full or partial exemption, remission, or deferral specifically related to exports, of direct taxes (**58**) or social welfare charges paid or payable by industrial or commercial enterprises. (**59**)

(f) The allowance of special deductions directly related to exports or export performance, over and above those granted in respect to production for domestic consumption, in the calculation of the base on which direct taxes are charged.

(g) The exemption or remission, in respect of the production and distribution of exported products, of indirect taxes in excess of those levied in respect of the production and distribution of like products when sold for domestic consumption.

(h) The exemption, remission or deferral of prior-stage cumulative indirect taxes on goods or services used in the production of exported products in excess of the exemption, remission or deferral of like prior-stage cumulative indirect taxes on goods or services used in the production of like products when sold for domestic consumption; provided, however, that prior-stage cumulative indirect taxes may be exempted, remitted or deferred on exported products even when not exempted, remitted or deferred on like products when sold for domestic consumption, if the prior-stage cumulative indirect taxes are levied on inputs that are consumed in the production of the exported product (making normal allowance for waste).(**60**) This item shall be interpreted in accordance with the guidelines on consumption of inputs in the production process contained in Annex II.

(i) The remission or drawback of import charges58 in excess of those levied on imported inputs that are consumed in the production of the exported product (making normal allowance for waste); provided, however, that in particular cases a firm may use a quantity of home market inputs equal to, and having the same quality and characteristics as, the imported inputs as a substitute for them in order to benefit from this provision if the import and the corresponding export operations both occur within a reasonable time period, not to exceed two years. This item shall be interpreted in accordance with the guidelines on consumption of inputs in the production process contained in Annex II and the guidelines in the determination of substitution drawback systems as export subsidies contained in Annex III.

(j) The provision by governments (or special institutions controlled by governments) of export credit guarantee or insurance programmes, of insurance or guarantee programmes against increases in the cost of exported products or of exchange risk programmes, at premium rates which are inadequate to cover the long-term operating costs and losses of the programmes.

(k) The grant by governments (or special institutions controlled by and/or acting under the authority of governments) of export credits at rates below those which they actually have to pay for the funds so employed (or would have to pay if they borrowed on international capital markets in order to obtain funds of the same maturity and other credit terms and denominated in the same currency as the export credit), or the payment by them of all or part of the costs incurred by exporters or financial institutions in obtaining credits, in so far as they are used to secure a material advantage in the field of export credit terms.

Provided, however, that if a Member is a party to an international undertaking on official export credits to which at least twelve original Members to this Agreement are parties as of 1 January 1979 (or a successor undertaking which has been adopted by those original Members), or if in practice a Member applies the interest rates provisions of the relevant undertaking, an export credit practice which is in conformity with those provisions shall not be considered an export subsidy prohibited by this Agreement.

(l) Any other charge on the public account constituting an export subsidy in the sense of Article XVI of GATT 1994.

Notes:

57. The term “commercially available” means that the choice between domestic and imported products is unrestricted and depends only on commercial considerations.

58. For the purpose of this Agreement:
The term “direct taxes” shall mean taxes on wages, profits, interests, rents, royalties, and all other forms of income, and taxes on the ownership of real property;

The term “import charges” shall mean tariffs, duties, and other fiscal charges not elsewhere enumerated in this note that are levied on imports;

The term “indirect taxes” shall mean sales, excise, turnover, value added, franchise, stamp, transfer, inventory and equipment taxes, border taxes and all taxes other than direct taxes and import charges;

“Prior-stage” indirect taxes are those levied on goods or services used directly or indirectly in making the product;

“Cumulative” indirect taxes are multi-staged taxes levied where there is no mechanism for subsequent crediting of the tax if the goods or services subject to tax at one stage of production are used in a succeeding stage of production;

“Remission” of taxes includes the refund or rebate of taxes;

“Remission or drawback” includes the full or partial exemption or deferral of import charges.

59. The Members recognize that deferral need not amount to an export subsidy where, for example, appropriate interest charges are collected. The Members reaffirm the principle that prices for goods in transactions between exporting enterprises and foreign buyers under their or under the same control should for tax purposes be the prices which would be charged between independent enterprises acting at arm's length. Any Member may draw the attention of another Member to administrative or other practices which may contravene this principle and which result in a significant saving of direct taxes in export transactions. In such circumstances the Members shall normally attempt to resolve their differences using the facilities of existing bilateral tax treaties or other specific international mechanisms, without prejudice to the rights and obligations of Members under GATT 1994, including the right of consultation created in the preceding sentence

Paragraph (e) is not intended to limit a Member from taking measures to avoid the double taxation of foreign-source income earned by its enterprises or the enterprises of another Member.

60. Paragraph (h) does not apply to value-added tax systems and border-tax adjustment in lieu thereof; the problem of the excessive remission of value-added taxes is exclusively covered by paragraph (g).

Source: http://www.wto.org/english/docs_e/legal_e/index_i_e.htm>

Appendix 2: List of China’s Subsidies Reported to the WTO Pursuant to Article XVI:1 of the GATT 1994 and Article 25 of the SCM Agreement

I. Preferential tax policies for foreign-invested enterprises

II. Preferential tax policies for foreign-invested export enterprises

III. Preferential tax policies for foreign-invested enterprises engaged in agriculture, forestry or animal husbandry and foreign-invested enterprises established in remote underdeveloped areas

IV. Preferential tax policies for foreign-invested enterprises engaged in energy, transportation infrastructure projects

V. Preferential tax policies for Chinese-foreign equity joint ventures engaged in port and dock construction

VI. Preferential tax policies for enterprises with foreign investment which are technology-intensive and knowledge-intensive

VII. Preferential tax policies for enterprises with foreign investment in the border cities

VIII. Preferential tax policies for enterprises with foreign investment recognized as high or new technology enterprises established in the State high or new technology industrial development zones, and for advanced technology enterprises invested in and operated by foreign businesses

IX. Preferential tax policies for enterprises recognized as high or new technology enterprises established in the State high or new technology industrial development zones

X. Preferential tax policies for enterprises with foreign investment established in special economic zones (excluding Shanghai Pudong area)

XI. Preferential tax policies for enterprises with foreign investment established in the costal economic open areas and in the economic and technological development zones

XII. Preferential tax policies for enterprises with foreign investment established in Pudong area of Shanghai

XIII. Preferential tax policies for enterprises with foreign investment established in the Three Gorges of Yangtze River Economic Zone

XIV. Preferential tax policies in the western regions

XV.

XVI. Preferential tax policies for enterprises established in the poverty stricken areas

XVII. Fiscal funds to alleviate poverty

XVIII. Specific subsidy on agricultural production and construction in the poverty stricken areas of Hexi and Dingxi of Gansu Province and Xihaigu of Ningxia Hui Autonomous Region

XIX. Interests discount of poverty alleviation loans

XX. Preferential tax policies for enterprises which utilize the waste materials

XXI. Preferential tax policies for enterprises suffering from natural disasters
XXII. Preferential tax policies for welfare enterprises
XXIII. Preferential tax policies for enterprises making little profits
XXIV. Preferential tax policies for township enterprises
XXV. Preferential tax policies for enterprises which provide employment for unemployed people
XXVI. Preferential tax policies for scientific research institutions under transformation
XXVII. Preferential tax policies for the research and development of enterprises
XXVIII. Preferential tax policies for the research and development of foreign-invested enterprises
XXIX. Preferential tax policies for enterprises transferring technology
XXX. Preferential tax policies for the key leading enterprises engaged in agricultural industrialization
XXXI. Preferential tax policies for the enterprises engaged in forestry
XXXII. Funds for supporting technological innovation for the technological small and medium-sized enterprises (SMEs)
XXXIII. Development funds for SMEs
XXXIV. Fund for international market exploration by SMEs
XXXV. Special fund for establishment of service system for SMEs
XXXVI. Fund for subsidizing the training of the rural migrant labour force
XXXVII. Outlay for training of youngster farmers on science and technology
XXXVIII. Fund for specialized cooperatives of farmers
XXXIX. Subsidy for popularization of agricultural technologies
XL. Subsidy for growing superior grain cultivars
XLI. Subsidy for purchasing agricultural machinery and tools
XLII. Subsidy for actualizing agricultural technology
XLIII. Fund provided for agricultural industrialization
XLIV.
XLV. Fund for agricultural disaster relief
XLVI. Fund provided to exempt from or reduce agriculture tax on farmers suffering from poor harvest after disasters
XLVII. Subsidy for major flood control and drought resistance
XLVIII. Fund for construction of small irrigation facilities in rural areas
XLIX. Fund for construction of small ecological facilities in rural areas
L. Fund for projects on collection, reservation and utilization of rainfall
LI. Fund for interest discount of loans for the purpose of agricultural water-saving irrigation
LII. Subsidies for national key construction projects on water and soil conservation
LIII. Special fund for projects on protection of natural forestry
LIV. Cash subsidy for returning cultivated land to forests
LV. Compensation fund for forestry ecological benefits
LVI. Interest discount for loans for the purpose of desertification prevention in forestry
LVII. Subsidy for prevention from and control of pest and disease in forestry
LVIII. Subsidy for grass seed sowing by airplanes

LIX. Preferential tax policies for integrated circuit industry

LX. Preferential tax policies for foreign invested enterprises and foreign enterprises which have establishments or place in China and are engaged in production or business operations purchasing domestically produced equipments.

LXI. Preferential tax policies for domestic enterprises purchasing domestically produced equipments for technology upgrading purpose

LXII. Exemption of tariff and import VAT for the imported technologies and equipments

LXIII. Preferential tax policies for enterprises of grain or oil reserves

LXIV. Preferential tax policies for the imports of China Grain Reserves Corporation for the purpose of rotation of grain reserves

LXV. Preferential tax policies for the relief grain and disaster relief grain, compensation grain for returning cultivated land to forests and to grass land, and the grain rations for the migrants from the reservoir areas

LXVI. Preferential tax treatment for tea sold in the border areas

LXVII. Preferential tax treatment for imported products for the purpose of replacing the planting of poppies

LXVIII. Preferential tax policies on imports of seeds (seedlings), breeding stock (fowl), fish fries (breeds) and non profit-making wild animals and plants kept as breeds during the period of the "Tenth Five-Year Plan"

LXIX. Preferential tax treatment for specimens of endangered wild animals and plants returned by the government of Hong Kong, China to the Office of the Administration of Import and Export of Endangered Species.

LXX. Preferential tax treatment for endangered wild animals and plants as well as their products returned by foreign governments, by the government of Hong Kong, China or the government of Macao, China to the Office of the Administration of Import and Export of Endangered Species

LXXI. Preferential tax treatment for building material products produced with integrated utilization of resources

LXXII. Preferential tax treatment for other products produced with integrated utilization of resources

LXXIII. Preferential tax treatment for imported products for scientific and educational purposes

LXXIV. Preferential tax treatment for imported products exclusively used by the disabled people

LXXV. Preferential tax treatment for products for the disabled people

LXXVI. Preferential tax treatment to anti-HIV-AIDS medicine

LXXVII. Refund of import VAT of raw copper materials

LXXVIII. Preferential tax treatment for casting and forging products

LXXIX. Preferential tax treatment to dies products

Appendix 3: Calculated CVD rates in U.S. subsidy investigations involving China

Case	Date Initiated**	Companies Investigated	Prelim**	Rates	AFA/ Calc	Final**	Rates	AFA/ Calc
Coated Free Sheet Paper	11/27/2006	Gold East Paper	4/9/2007	20.35	Calc	10/17/2007	7.4	Calc
Coated Free Sheet Paper	11/27/2006	Shandong Chenming Paper	4/9/2007	10.9	Calc	10/17/2007	44.25	AFA
Coated Free Sheet Paper	11/27/2006	All others	4/9/2007	18.16		10/17/2007	7.4	
Circular Welded Pipe	7/5/2007	The Shuangjie Group	11/6/2007	264.98	AFA	7/22/2008	616.83	AFA
Circular Welded Pipe	7/5/2007	Weifang East Steel Pipe	11/6/2007	0	Calc	7/22/2008	29.62	Calc
Circular Welded Pipe	7/5/2007	The Kingland Group	11/6/2007	16.59	Calc	7/22/2008	44.93	Calc
Circular Welded Pipe	7/5/2007	All others	11/6/2007	16.59		7/22/2008	37.28	
OTR Tires	8/7/2007	Hebei Starbright Tire Co. Ltd	12/17/2007	2.38	Calc	7/15/2008	14	Calc
OTR Tires	8/7/2007	Guizhou Tyre Co., Ltd.	12/17/2007	3.13	Calc	7/15/2008	2.45	Calc
OTR Tires	8/7/2007	Tianjin United	12/17/2007	6.59	Calc	7/15/2008	6.85	Calc
OTR Tires	8/7/2007	All others	12/17/2007	4.44		7/15/2008	5.62	
Light-walled Rectangular Pipe	7/24/2007	Zhanjiagang Zhongyuan	11/26/2007	2.99	Calc	6/24/2008	15.28	Calc
Light-walled Rectangular Pipe	7/24/2007	Qingdao Xiangxing Steel	11/26/2007	77.85	AFA	6/24/2008	200.58	AFA
Light-walled Rectangular Pipe	7/24/2007	Kunshan Lets Win	11/26/2007	0.27	Calc	6/24/2008	2.17	Calc
Light-walled Rectangular Pipe	7/24/2007	All others	11/26/2007	2.99		6/24/2008	15.28	
Woven Sacks	7/25/2007	Shandong Shouguang	12/3/2007	2.57	Calc	6/24/2008	352.82	AFA
Woven Sacks	7/25/2007	Zibo Aifudi Plastic*	12/3/2007	11.59	Calc	6/24/2008	29.54	Calc
Woven Sacks	7/25/2007	Han Shing Chemical	12/3/2007	57.14	AFA	6/24/2008	223.74	AFA
Woven Sacks	7/25/2007	Ningbo Yong Feng	12/3/2007	57.14	AFA	6/24/2008	223.74	AFA
Woven Sacks	7/25/2007	Shandong Qilu Plastic	12/3/2007	57.14	AFA	6/24/2008	304.4	AFA
Woven Sacks	7/25/2007	All others	12/3/2007	2.57		6/24/2008	226.85	
Magnets	10/18/2007	China Ningbo Cixi	2/25/2008	70.41	AFA	7/10/2008	109.95	AFA
Magnets	10/18/2007	Polyflex Magnets	2/25/2008	70.41	AFA	7/10/2008	109.95	AFA
Magnets	10/18/2007	All others	2/25/2008	70.41		7/10/2008	109.95	
Light weight Thermal Paper	10/29/2007	Guangdong Guanhao High-Tech	3/14/2008	5.68	Calc	11/24/2008	13.63	Calc
Light weight Thermal Paper	10/29/2007	Shanghai Hanhong Paper	3/14/2008	0.57	Calc	11/24/2008	0.57	Calc
Light weight Thermal Paper	10/29/2007	Shenzhen Yuanming	3/14/2008	59.5	AFA	11/24/2008	138.53	AFA
Light weight Thermal Paper	10/29/2007	Xiamen Anne Paper	3/14/2008			11/24/2008	123.65	AFA
Light weight Thermal Paper	10/29/2007	MDCN Technology	3/14/2008	59.5	AFA	11/24/2008	124.93	AFA
Light weight Thermal Paper	10/29/2007	All others	3/14/2008	5.68		11/24/2008	13.63	
Sodium Nitrate	11/29/2007	Shanxi Jiaocheng	4/11/2008	93.56	AFA	7/8/2008	169.01	AFA
Sodium Nitrate	11/29/2007	Tianjin Soda Plant	4/11/2008	93.56	AFA	7/8/2008	169.01	AFA
Sodium Nitrate	11/29/2007	All others	4/11/2008	93.56		7/8/2008	169.01	
Circular Welded Austenitic Stainless Pressure Pipe	2/25/2008	Winner Companies	8/7/2008	1.47	Calc			
Circular Welded Austenitic Stainless Pressure Pipe	2/25/2008	Froch Enterprise	8/7/2008	105.73	AFA			
Circular Welded Austenitic Stainless Pressure Pipe	2/25/2008	All others	8/7/2008	53.04				
Circular Welded Line Pipe	4/29/2008	Liaoning Northern Steel Pipe	9/9/2008	31.65	Calc	11/24/2008	40.05	Calc
Circular Welded Line Pipe	4/29/2008	Huludao Companies	9/9/2008	18.89	Calc	11/24/2008	35.63	Calc
Circular Welded Line Pipe	4/29/2008	All others	9/9/2008	25.27		11/24/2008	37.84	
Citric Acid and Citrate Salts	5/12/2008	TTCA Co.	9/19/2008	1.41	Calc			
Citric Acid and Citrate Salts	5/12/2008	Yixing Union Biochemical	9/19/2008	3.92	Calc			
Citric Acid and Citrate Salts	5/12/2008	Anhui BBCA Biochemical	9/19/2008	97.72	AFA			
Citric Acid and Citrate Salts	5/12/2008	All others	9/19/2008	2.67				

Case	Date Initiated**	Companies Investigated	Prelim**	Rates	AFA/ Calc	Final**	Rates	AFA/ Calc
Tow-Behind Lawn Groomers	7/21/2008	Princeway Limited	11/24/2008	0.95	Calc			
Tow-Behind Lawn Groomers	7/21/2008	Jiashan Superpower Tools	11/24/2008	2.77	Calc			
Tow-Behind Lawn Groomers	7/21/2008	Maxchief Investments	11/24/2008	254.52	AFA			
Tow-Behind Lawn Groomers	7/21/2008	Qingdao EA Huabang Instrument	11/24/2008	254.52	AFA			
Tow-Behind Lawn Groomers	7/21/2008	Qingdao Hundai Tools	11/24/2008	254.52	AFA			
Tow-Behind Lawn Groomers	7/21/2008	Qingdao Taifa Group	11/24/2008	254.52	AFA			
Tow-Behind Lawn Groomers	7/21/2008	World Factory	11/24/2008	254.52	AFA			
Tow-Behind Lawn Groomers		All others	11/24/2008	2.77				
Certain Kitchen Appliance Shelving and Racks	8/26/2008	Guangdon Wireking Housewares and Hardware	12/23/2008	13.22				
Certain Kitchen Appliance Shelving and Racks	8/26/2008	Asber Enterprise Co.	12/23/2008	197.14	AFA			
Certain Kitchen Appliance Shelving and Racks	8/26/2008	Changzhou Yixiong Metal Products Co.	12/23/2008	162.87	AFA			
Certain Kitchen Appliance Shelving and Racks	8/26/2008	Foshan Winleader Metal Products Co.	12/23/2008	162.87	AFA			
Certain Kitchen Appliance Shelving and Racks	8/26/2008	Kingsun Enterprises Group Co.	12/23/2008	162.87	AFA			
Certain Kitchen Appliance Shelving and Racks	8/26/2008	Yuyao Hanjun Metal Work Co./ Yuyao Hanjun Metal Products Co.	12/23/2008	162.87	AFA			
Certain Kitchen Appliance Shelving and Racks	8/26/2008	Zhongshan Iwatani, Co.	12/23/2008	162.87	AFA			
Certain Kitchen Appliance Shelving and Racks	8/26/2008	All others	12/23/2008	13.22				

* Voluntary company, not included in all others calculation
** Dates reflect the publication dates for the Federal Register notices, including publication of any amended rates.

Average non-AFA rate (final or prelim)	13.99	%
Average AFA rate (final or prelim)	199.96	%
Average all others rate	53.43	%

Appendix 4: China CVD rates by program and firm

Firm:	Gold East Paper	Shandong Chenming Paper	The Shuangjie Group	Weifang East Steel Pipe 1/	The Kingland Group 1/
Product/Industry:	*Coated Free Sheet Paper*		*Circular Welded Pipe*		
State Key Technology Renovation Project Fund		AFA	AFA		
Superstar Enterprise Grant		AFA	AFA		0.02%
Funds for the Outward Expansion of Industries in Guandong Province		AFA	AFA		
Zhanjiang Municipality and ZETDZ Export Related Assistance		AFA	AFA		
Environmental Protection		AFA	AFA		
Liaoning Province Grants		AFA	AFA		
Anqiu Finance Bureau Grant		AFA	AFA		
Foreign Trade Development Fund		AFA	AFA		
Provincial Export Interest Subsidies		AFA	AFA		
Export Loans		AFA	AFA		
Policy Lending		AFA	AFA	1.14%	
Shareholder Loans		AFA	AFA		
Debt Forgiveness		AFA	AFA	1.08%	
"Torch" Income Tax Program		AFA	AFA		
"Two Free, Three Half" Income Tax Program	0.76%	AFA	AFA		
Income Tax Reductions for Export-oriented FIEs		AFA	AFA		
Reduced Income Tax Rate for Technology or Knowledge Intensive FIEs		AFA	AFA		
Tax Subsidies to FIEs Based on Location	0.76%	AFA	AFA		
Local Income Tax Exemption and Reduction Program for "Productive" FIEs	0.15%	AFA	AFA		
Refund of Enterprise Income Taxes on FIE Profits Reinvested in an Export-Oriented Enterprise		AFA	AFA		
Reduced Income Tax Rates and Exemption from Local Tax Based on Location in Pudong New Area		AFA	AFA		
Income Tax Credits on Purchases of Domestically Produced Equipment by FIEs		AFA	AFA		
Income Tax Credits on Purchases of Domestically Produced Equipment by Domestically Owned Companies		AFA	AFA		
VAT Rebates on FIE Purchases of Domestically Produced Equipment	0.08%	AFA	AFA		
VAT and Tariff Exemptions on Imported Equipment	1.51%	AFA	AFA		
Domestic VAT Refunds for Companies in Certain Locations (Zones)	0.04%	AFA	AFA		
VAT Fixed Asset Refunds for Certain Industries		AFA	AFA		
Stamp Tax Exemption on Share Transfer		AFA	AFA		
FIE Land Tax Waiver		AFA	AFA		
Provision of Land for Less than Adequate Remuneration		AFA	AFA		
Provision of Inputs for Less than Adequate Remuneration: Hot-rolled Steel		AFA	AFA	27.35%	44.84%
Provision of Inputs for Less than Adequate Remuneration: Stainless Steel Coil		AFA	AFA		
Provision of Inputs for Less than Adequate Remuneration: Rubber		AFA	AFA		
Provision of Inputs for Less than Adequate Remuneration: Electricity		AFA	AFA		
Provision of Inputs for Less than Adequate Remuneration:Biaxial-oriented Polypropylene		AFA	AFA		
Famous Brands Program		AFA	AFA		
Total	3.30%			29.57%	44.86%
Number of programs	6	-	-	3	2

Firm:	Hebei Starbright Tire	Guizhou Tyre	Tianjin United
Product/Industry:		*Off-The-Road Tires*	
State Key Technology Renovation Project Fund		0.15%	
Superstar Enterprise Grant			
Funds for the Outward Expansion of Industries in Guandong Province			
Zhanjiang Municipality and ZETDZ Export Related Assistance			
Environmental Protection			
Liaoning Province Grants			
Anqiu Finance Bureau Grant			
Foreign Trade Development Fund			
Provincial Export Interest Subsidies			
Export Loans			
Policy Lending	0.56%	1.87%	
Shareholder Loans			
Debt Forgiveness	11.83%		6.14%
"Torch" Income Tax Program			
"Two Free, Three Half" Income Tax Program			
Income Tax Reductions for Export-oriented FIEs			
Reduced Income Tax Rate for Technology or Knowledge Intensive FIEs			
Tax Subsidies to FIEs Based on Location			0.13%
Local Income Tax Exemption and Reduction Program for "Productive" FIEs			0.06%
Refund of Enterprise Income Taxes on FIE Profits Reinvested in an Export-Oriented Enterprise			
Reduced Income Tax Rates and Exemption from Local Tax Based on Location in Pudong New Area			
Income Tax Credits on Purchases of Domestically Produced Equipment by FIEs			
Income Tax Credits on Purchases of Domestically Produced Equipment by Domestically Owned Companies			
VAT Rebates on FIE Purchases of Domestically Produced Equipment		0.25%	0.44%
VAT and Tariff Exemptions on Imported Equipment			
Domestic VAT Refunds for Companies in Certain Locations (Zones)			
VAT Fixed Asset Refunds for Certain Industries			
Stamp Tax Exemption on Share Transfer		0.01%	
FIE Land Tax Waiver			
Provision of Land for Less than Adequate Remuneration	1.61%		
Provision of Inputs for Less than Adequate Remuneration: Hot-rolled Steel			
Provision of Inputs for Less than Adequate Remuneration: Stainless Steel Coil			
Provision of Inputs for Less than Adequate Remuneration: Rubber	0.00%	0.17%	0.08%
Provision of Inputs for Less than Adequate Remuneration: Electricity			
Provision of Inputs for Less than Adequate Remuneration:Biaxial-oriented Polypropylene			
Famous Brands Program			
Total	14.00%	2.45%	6.85%
Number of programs	4	5	5

Firm:	Zhanjiagang Zhongyuan	Qingdao Xiangxing Steel	Kunshan Lets Win
Product/Industry:	*Light-walled Rectangular Pipe*		
State Key Technology Renovation Project Fund		AFA	
Superstar Enterprise Grant		AFA	
Funds for the Outward Expansion of Industries in Guandong Province		AFA	
Zhanjiang Municipality and ZETDZ Export Related Assistance		AFA	
Environmental Protection		AFA	
Liaoning Province Grants		AFA	
Anqiu Finance Bureau Grant		AFA	
Foreign Trade Development Fund		AFA	
Provincial Export Interest Subsidies		AFA	
Export Loans		AFA	
Policy Lending		AFA	
Shareholder Loans		AFA	
Debt Forgiveness		AFA	
"Torch" Income Tax Program		AFA	
"Two Free, Three Half" Income Tax Program		AFA	
Income Tax Reductions for Export-oriented FIEs		AFA	
Reduced Income Tax Rate for Technology or Knowledge Intensive FIEs		AFA	
Tax Subsidies to FIEs Based on Location		AFA	0.27%
Local Income Tax Exemption and Reduction Program for "Productive" FIEs		AFA	
Refund of Enterprise Income Taxes on FIE Profits Reinvested in an Export-Oriented Enterprise		AFA	
Reduced Income Tax Rates and Exemption from Local Tax Based on Location in Pudong New Area		AFA	
Income Tax Credits on Purchases of Domestically Produced Equipment by FIEs		AFA	
Income Tax Credits on Purchases of Domestically Produced Equipment by Domestically Owned Companies		AFA	
VAT Rebates on FIE Purchases of Domestically Produced Equipment		AFA	
VAT and Tariff Exemptions on Imported Equipment		AFA	
Domestic VAT Refunds for Companies in Certain Locations (Zones)		AFA	
VAT Fixed Asset Refunds for Certain Industries		AFA	
Stamp Tax Exemption on Share Transfer		AFA	
FIE Land Tax Waiver		AFA	
Provision of Land for Less than Adequate Remuneration	0.10%	AFA	
Provision of Inputs for Less than Adequate Remuneration: Hot-rolled Steel	15.18%	AFA	1.90%
Provision of Inputs for Less than Adequate Remuneration: Stainless Steel Coil		AFA	
Provision of Inputs for Less than Adequate Remuneration: Rubber		AFA	
Provision of Inputs for Less than Adequate Remuneration: Electricity		AFA	
Provision of Inputs for Less than Adequate Remuneration:Biaxial-oriented Polypropylene		AFA	
Famous Brands Program		AFA	
Total	15.28%		2.17%
Number of programs	2	-	2

Firm:	Shandong Shouguang 1/	Zibo Aifudi Plastic	Han Shing Chemical	Ningbo Yong Feng	Shandong Qilu Plastic
Product/Industry:			*Woven Sacks*		
State Key Technology Renovation Project Fund	AFA		AFA	AFA	AFA
Superstar Enterprise Grant	AFA		AFA	AFA	AFA
Funds for the Outward Expansion of Industries in Guandong Province	AFA		AFA	AFA	AFA
Zhanjiang Municipality and ZETDZ Export Related Assistance	AFA		AFA	AFA	AFA
Environmental Protection	AFA		AFA	AFA	AFA
Liaoning Province Grants	AFA		AFA	AFA	AFA
Anqiu Finance Bureau Grant	AFA		AFA	AFA	AFA
Foreign Trade Development Fund	AFA		AFA	AFA	AFA
Provincial Export Interest Subsidies	AFA		AFA	AFA	AFA
Export Loans	AFA		AFA	AFA	AFA
Policy Lending	AFA	0.06%	AFA	AFA	AFA
Shareholder Loans	AFA		AFA	AFA	AFA
Debt Forgiveness	AFA		AFA	AFA	AFA
"Torch" Income Tax Program	AFA		AFA	AFA	AFA
"Two Free, Three Half" Income Tax Program	AFA		AFA	AFA	AFA
Income Tax Reductions for Export-oriented FIEs	AFA		AFA	AFA	AFA
Reduced Income Tax Rate for Technology or Knowledge Intensive FIEs	AFA		AFA	AFA	AFA
Tax Subsidies to FIEs Based on Location	AFA		AFA	AFA	AFA
Local Income Tax Exemption and Reduction Program for "Productive" FIEs	AFA		AFA	AFA	AFA
Refund of Enterprise Income Taxes on FIE Profits Reinvested in an Export-Oriented Enterprise	AFA		AFA	AFA	AFA
Reduced Income Tax Rates and Exemption from Local Tax Based on Location in Pudong New Area	AFA		AFA	AFA	AFA
Income Tax Credits on Purchases of Domestically Produced Equipment by FIEs	AFA		AFA	AFA	AFA
Income Tax Credits on Purchases of Domestically Produced Equipment by Domestically Owned Companies	AFA		AFA	AFA	AFA
VAT Rebates on FIE Purchases of Domestically Produced Equipment	AFA		AFA	AFA	AFA
VAT and Tariff Exemptions on Imported Equipment	AFA		AFA	AFA	AFA
Domestic VAT Refunds for Companies in Certain Locations (Zones)	AFA		AFA	AFA	AFA
VAT Fixed Asset Refunds for Certain Industries	AFA		AFA	AFA	AFA
Stamp Tax Exemption on Share Transfer	AFA		AFA	AFA	AFA
FIE Land Tax Waiver	AFA		AFA	AFA	AFA
Provision of Land for Less than Adequate Remuneration	AFA	13.36%	AFA	AFA	AFA
Provision of Inputs for Less than Adequate Remuneration: Hot-rolled Steel	AFA		AFA	AFA	AFA
Provision of Inputs for Less than Adequate Remuneration: Stainless Steel Coil	AFA		AFA	AFA	AFA
Provision of Inputs for Less than Adequate Remuneration: Rubber	AFA		AFA	AFA	AFA
Provision of Inputs for Less than Adequate Remuneration: Electricity	AFA		AFA	AFA	AFA
Provision of Inputs for Less than Adequate Remuneration:Biaxial-oriented Polypropylene	AFA	16.12%	AFA	AFA	AFA
Famous Brands Program	AFA		AFA	AFA	AFA
Total		29.54%			
Number of programs	-	3	-	-	-

Firm:	China Ningbo Cixi	Polyflex Magnets
Product/Industry:	*Magnets*	
State Key Technology Renovation Project Fund	AFA	AFA
Superstar Enterprise Grant	AFA	AFA
Funds for the Outward Expansion of Industries in Guandong Province	AFA	AFA
Zhanjiang Municipality and ZETDZ Export Related Assistance	AFA	AFA
Environmental Protection	AFA	AFA
Liaoning Province Grants	AFA	AFA
Anqiu Finance Bureau Grant	AFA	AFA
Foreign Trade Development Fund	AFA	AFA
Provincial Export Interest Subsidies	AFA	AFA
Export Loans	AFA	AFA
Policy Lending	AFA	AFA
Shareholder Loans	AFA	AFA
Debt Forgiveness	AFA	AFA
"Torch" Income Tax Program	AFA	AFA
"Two Free, Three Half" Income Tax Program	AFA	AFA
Income Tax Reductions for Export-oriented FIEs	AFA	AFA
Reduced Income Tax Rate for Technology or Knowledge Intensive FIEs	AFA	AFA
Tax Subsidies to FIEs Based on Location	AFA	AFA
Local Income Tax Exemption and Reduction Program for "Productive" FIEs	AFA	AFA
Refund of Enterprise Income Taxes on FIE Profits Reinvested in an Export-Oriented Enterprise	AFA	AFA
Reduced Income Tax Rates and Exemption from Local Tax Based on Location in Pudong New Area	AFA	AFA
Income Tax Credits on Purchases of Domestically Produced Equipment by FIEs	AFA	AFA
Income Tax Credits on Purchases of Domestically Produced Equipment by Domestically Owned Companies	AFA	AFA
VAT Rebates on FIE Purchases of Domestically Produced Equipment	AFA	AFA
VAT and Tariff Exemptions on Imported Equipment	AFA	AFA
Domestic VAT Refunds for Companies in Certain Locations (Zones)	AFA	AFA
VAT Fixed Asset Refunds for Certain Industries	AFA	AFA
Stamp Tax Exemption on Share Transfer	AFA	AFA
FIE Land Tax Waiver	AFA	AFA
Provision of Land for Less than Adequate Remuneration	AFA	AFA
Provision of Inputs for Less than Adequate Remuneration: Hot-rolled Steel	AFA	AFA
Provision of Inputs for Less than Adequate Remuneration: Stainless Steel Coil	AFA	AFA
Provision of Inputs for Less than Adequate Remuneration: Rubber	AFA	AFA
Provision of Inputs for Less than Adequate Remuneration: Electricity	AFA	AFA
Provision of Inputs for Less than Adequate Remuneration:Biaxial-oriented Polypropylene	AFA	AFA
Famous Brands Program	AFA	AFA
Total		
Number of programs	-	-

Firm:	Guangdong Guanhao High-Tech	Shanghai Hanhong Paper	Shenzhen Yuanming	MDCN Technology
Product/Industry:	*Light weight Thermal Paper*			
State Key Technology Renovation Project Fund		0.18%	AFA	AFA
Superstar Enterprise Grant			AFA	AFA
Funds for the Outward Expansion of Industries in Guandong Province	0.08%		AFA	AFA
Zhanjiang Municipality and ZETDZ Export Related Assistance	0.05%		AFA	AFA
Environmental Protection	0.05%		AFA	AFA
Liaoning Province Grants			AFA	AFA
Anqiu Finance Bureau Grant			AFA	AFA
Foreign Trade Development Fund			AFA	AFA
Provincial Export Interest Subsidies			AFA	AFA
Export Loans			AFA	AFA
Policy Lending	8.31%		AFA	AFA
Shareholder Loans	0.97%		AFA	AFA
Debt Forgiveness	2.32%		AFA	AFA
"Torch" Income Tax Program	0.75%		AFA	AFA
”Two Free, Three Half” Income Tax Program	0.08%		AFA	AFA
Income Tax Reductions for Export-oriented FIEs			AFA	AFA
Reduced Income Tax Rate for Technology or Knowledge Intensive FIEs			AFA	AFA
Tax Subsidies to FIEs Based on Location	0.02%		AFA	AFA
Local Income Tax Exemption and Reduction Program for “Productive” FIEs	0.01%		AFA	AFA
Refund of Enterprise Income Taxes on FIE Profits Reinvested in an Export-Oriented Enterprise			AFA	AFA
Reduced Income Tax Rates and Exemption from Local Tax Based on Location in Pudong New Area		0.39%	AFA	AFA
Income Tax Credits on Purchases of Domestically Produced Equipment by FIEs			AFA	AFA
Income Tax Credits on Purchases of Domestically Produced Equipment by Domestically Owned Companies			AFA	AFA
VAT Rebates on FIE Purchases of Domestically Produced Equipment			AFA	AFA
VAT and Tariff Exemptions on Imported Equipment	0.64%		AFA	AFA
Domestic VAT Refunds for Companies in Certain Locations (Zones)			AFA	AFA
VAT Fixed Asset Refunds for Certain Industries			AFA	AFA
Stamp Tax Exemption on Share Transfer	0.02%		AFA	AFA
FIE Land Tax Waiver	0.09%		AFA	AFA
Provision of Land for Less than Adequate Remuneration	0.17%		AFA	AFA
Provision of Inputs for Less than Adequate Remuneration: Hot-rolled Steel			AFA	AFA
Provision of Inputs for Less than Adequate Remuneration: Stainless Steel Coil			AFA	AFA
Provision of Inputs for Less than Adequate Remuneration: Rubber			AFA	AFA
Provision of Inputs for Less than Adequate Remuneration: Electricity	0.07%		AFA	AFA
Provision of Inputs for Less than Adequate Remuneration:Biaxial-oriented Polypropylene			AFA	AFA
Famous Brands Program			AFA	AFA
Total	13.63%	0.57%		
Number of programs	15	2	-	-

Firm:	Shanxi Jiaocheng	Tianjin Soda Plant	Winner Companies	Froch Enterprise
Product/Industry:	*Sodium Nitrate*		*C. W. Aust. SS Pressure Pipe*	
State Key Technology Renovation Project Fund	AFA	AFA		AFA
Superstar Enterprise Grant	AFA	AFA		AFA
Funds for the Outward Expansion of Industries in Guandong Province	AFA	AFA		AFA
Zhanjiang Municipality and ZETDZ Export Related Assistance	AFA	AFA		AFA
Environmental Protection	AFA	AFA		AFA
Liaoning Province Grants	AFA	AFA		AFA
Anqiu Finance Bureau Grant	AFA	AFA		AFA
Foreign Trade Development Fund	AFA	AFA		AFA
Provincial Export Interest Subsidies	AFA	AFA		AFA
Export Loans	AFA	AFA		AFA
Policy Lending	AFA	AFA		AFA
Shareholder Loans	AFA	AFA		AFA
Debt Forgiveness	AFA	AFA		AFA
"Torch" Income Tax Program	AFA	AFA		AFA
"Two Free, Three Half" Income Tax Program	AFA	AFA		AFA
Income Tax Reductions for Export-oriented FIEs	AFA	AFA		AFA
Reduced Income Tax Rate for Technology or Knowledge Intensive FIEs	AFA	AFA		AFA
Tax Subsidies to FIEs Based on Location	AFA	AFA	0.08%	AFA
Local Income Tax Exemption and Reduction Program for "Productive" FIEs	AFA	AFA		AFA
Refund of Enterprise Income Taxes on FIE Profits Reinvested in an Export-Oriented Enterprise	AFA	AFA		AFA
Reduced Income Tax Rates and Exemption from Local Tax Based on Location in Pudong New Area	AFA	AFA		AFA
Income Tax Credits on Purchases of Domestically Produced Equipment by FIEs	AFA	AFA		AFA
Income Tax Credits on Purchases of Domestically Produced Equipment by Domestically Owned Companies	AFA	AFA		AFA
VAT Rebates on FIE Purchases of Domestically Produced Equipment	AFA	AFA		AFA
VAT and Tariff Exemptions on Imported Equipment	AFA	AFA		AFA
Domestic VAT Refunds for Companies in Certain Locations (Zones)	AFA	AFA		AFA
VAT Fixed Asset Refunds for Certain Industries	AFA	AFA		AFA
Stamp Tax Exemption on Share Transfer	AFA	AFA		AFA
FIE Land Tax Waiver	AFA	AFA		AFA
Provision of Land for Less than Adequate Remuneration	AFA	AFA		AFA
Provision of Inputs for Less than Adequate Remuneration: Hot-rolled Steel	AFA	AFA		AFA
Provision of Inputs for Less than Adequate Remuneration: Stainless Steel Coil	AFA	AFA	1.39%	AFA
Provision of Inputs for Less than Adequate Remuneration: Rubber	AFA	AFA		AFA
Provision of Inputs for Less than Adequate Remuneration: Electricity	AFA	AFA		AFA
Provision of Inputs for Less than Adequate Remuneration:Biaxial-oriented Polypropylene	AFA	AFA		AFA
Famous Brands Program	AFA	AFA		AFA
Total			1.47%	
Number of programs	-	-	2	-

Firm:	Liaoning Northern Steel Pipe	Huludao Companies	TTCA	Yixing Union Biochemical	Anhui BBCA Biochemical
Product/Industry:	*Circular Welded Line Pipe*		*Citric Acid and Citrate Salts*		
State Key Technology Renovation Project Fund					AFA
Superstar Enterprise Grant					AFA
Funds for the Outward Expansion of Industries in Guandong Province					AFA
Zhanjiang Municipality and ZETDZ Export Related Assistance					AFA
Environmental Protection					AFA
Liaoning Province Grants		0.30%			AFA
Anqiu Finance Bureau Grant			0.20%		AFA
Foreign Trade Development Fund	0.05%	0.08%			AFA
Provincial Export Interest Subsidies	0.43%				AFA
Export Loans	1.76%	0.35%			AFA
Policy Lending		0.16%	0.90%		AFA
Shareholder Loans					AFA
Debt Forgiveness					AFA
"Torch" Income Tax Program					AFA
"Two Free, Three Half" Income Tax Program	4.11%			0.35%	AFA
Income Tax Reductions for Export-oriented FIEs					AFA
Reduced Income Tax Rate for Technology or Knowledge Intensive FIEs				2.07%	AFA
Tax Subsidies to FIEs Based on Location				0.17%	AFA
Local Income Tax Exemption and Reduction Program for "Productive" FIEs				0.50%	AFA
Refund of Enterprise Income Taxes on FIE Profits Reinvested in an Export-Oriented Enterprise					AFA
Reduced Income Tax Rates and Exemption from Local Tax Based on Location in Pudong New Area					AFA
Income Tax Credits on Purchases of Domestically Produced Equipment by FIEs				0.11%	AFA
Income Tax Credits on Purchases of Domestically Produced Equipment by Domestically Owned Companies		0.38%			AFA
VAT Rebates on FIE Purchases of Domestically Produced Equipment			0.23%		AFA
VAT and Tariff Exemptions on Imported Equipment			0.08%	0.69%	AFA
Domestic VAT Refunds for Companies in Certain Locations (Zones)					AFA
VAT Fixed Asset Refunds for Certain Industries		0.10%			AFA
Stamp Tax Exemption on Share Transfer					AFA
FIE Land Tax Waiver					AFA
Provision of Land for Less than Adequate Remuneration		0.78%			AFA
Provision of Inputs for Less than Adequate Remuneration: Hot-rolled Steel	33.70%	33.48%			AFA
Provision of Inputs for Less than Adequate Remuneration: Stainless Steel Coil					AFA
Provision of Inputs for Less than Adequate Remuneration: Rubber					AFA
Provision of Inputs for Less than Adequate Remuneration: Electricity					AFA
Provision of Inputs for Less than Adequate Remuneration:Biaxial-oriented Polypropylene					AFA
Famous Brands Program				0.03%	AFA
Total	40.05%	35.63%	1.41%	3.92%	
Number of programs	5	8	4	7	-

Firm:	Princeway Limited	Jiashan Superpower Tools	Maxchief Investments	Qingdao EA Huabang Instrument
Product/Industry:	*Tow-Behind Lawn Groomers (partial)*			
State Key Technology Renovation Project Fund			AFA	AFA
Superstar Enterprise Grant			AFA	AFA
Funds for the Outward Expansion of Industries in Guandong Province			AFA	AFA
Zhanjiang Municipality and ZETDZ Export Related Assistance			AFA	AFA
Environmental Protection			AFA	AFA
Liaoning Province Grants			AFA	AFA
Anqiu Finance Bureau Grant			AFA	AFA
Foreign Trade Development Fund			AFA	AFA
Provincial Export Interest Subsidies			AFA	AFA
Export Loans			AFA	AFA
Policy Lending			AFA	AFA
Shareholder Loans			AFA	AFA
Debt Forgiveness			AFA	AFA
"Torch" Income Tax Program			AFA	AFA
"Two Free, Three Half" Income Tax Program	0.46%	1.32%	AFA	AFA
Income Tax Reductions for Export-oriented FIEs		0.15%	AFA	AFA
Reduced Income Tax Rate for Technology or Knowledge Intensive FIEs			AFA	AFA
Tax Subsidies to FIEs Based on Location		0.66%	AFA	AFA
Local Income Tax Exemption and Reduction Program for "Productive" FIEs			AFA	AFA
Refund of Enterprise Income Taxes on FIE Profits Reinvested in an Export-Oriented Enterprise		0.64%	AFA	AFA
Reduced Income Tax Rates and Exemption from Local Tax Based on Location in Pudong New Area			AFA	AFA
Income Tax Credits on Purchases of Domestically Produced Equipment by FIEs			AFA	AFA
Income Tax Credits on Purchases of Domestically Produced Equipment by Domestically Owned Companies			AFA	AFA
VAT Rebates on FIE Purchases of Domestically Produced Equipment			AFA	AFA
VAT and Tariff Exemptions on Imported Equipment	0.49%		AFA	AFA
Domestic VAT Refunds for Companies in Certain Locations (Zones)			AFA	AFA
VAT Fixed Asset Refunds for Certain Industries			AFA	AFA
Stamp Tax Exemption on Share Transfer			AFA	AFA
FIE Land Tax Waiver			AFA	AFA
Provision of Land for Less than Adequate Remuneration			AFA	AFA
Provision of Inputs for Less than Adequate Remuneration: Hot-rolled Steel			AFA	AFA
Provision of Inputs for Less than Adequate Remuneration: Stainless Steel Coil			AFA	AFA
Provision of Inputs for Less than Adequate Remuneration: Rubber			AFA	AFA
Provision of Inputs for Less than Adequate Remuneration: Electricity			AFA	AFA
Provision of Inputs for Less than Adequate Remuneration:Biaxial-oriented Polypropylene			AFA	AFA
Famous Brands Program			AFA	AFA
Total	0.95%	2.77%		
Number of programs	2	4	-	-

Firm:	Qingdao Hundai Tools	Qingdao Taifa Group	World Factory	Total, By Program
Product/Industry:	Tow-Behind Lawn Groomers (ctd.)			
State Key Technology Renovation Project Fund	AFA	AFA	AFA	0.33%
Superstar Enterprise Grant	AFA	AFA	AFA	0.02%
Funds for the Outward Expansion of Industries in Guandong Province	AFA	AFA	AFA	0.08%
Zhanjiang Municipality and ZETDZ Export Related Assistance	AFA	AFA	AFA	0.05%
Environmental Protection	AFA	AFA	AFA	0.05%
Liaoning Province Grants	AFA	AFA	AFA	0.30%
Anqiu Finance Bureau Grant	AFA	AFA	AFA	0.20%
Foreign Trade Development Fund	AFA	AFA	AFA	0.13%
Provincial Export Interest Subsidies	AFA	AFA	AFA	0.43%
Export Loans	AFA	AFA	AFA	2.11%
Policy Lending	AFA	AFA	AFA	13.00%
Shareholder Loans	AFA	AFA	AFA	0.97%
Debt Forgiveness	AFA	AFA	AFA	21.37%
"Torch" Income Tax Program	AFA	AFA	AFA	0.75%
”Two Free, Three Half” Income Tax Program	AFA	AFA	AFA	7.08%
Income Tax Reductions for Export-oriented FIEs	AFA	AFA	AFA	0.15%
Reduced Income Tax Rate for Technology or Knowledge Intensive FIEs	AFA	AFA	AFA	2.07%
Tax Subsidies to FIEs Based on Location	AFA	AFA	AFA	2.09%
Local Income Tax Exemption and Reduction Program for “Productive” FIEs	AFA	AFA	AFA	0.72%
Refund of Enterprise Income Taxes on FIE Profits Reinvested in an Export-Oriented Enterprise	AFA	AFA	AFA	0.64%
Reduced Income Tax Rates and Exemption from Local Tax Based on Location in Pudong New Area	AFA	AFA	AFA	0.39%
Income Tax Credits on Purchases of Domestically Produced Equipment by FIEs	AFA	AFA	AFA	0.11%
Income Tax Credits on Purchases of Domestically Produced Equipment by Domestically Owned Companies	AFA	AFA	AFA	0.38%
VAT Rebates on FIE Purchases of Domestically Produced Equipment	AFA	AFA	AFA	1.00%
VAT and Tariff Exemptions on Imported Equipment	AFA	AFA	AFA	3.41%
Domestic VAT Refunds for Companies in Certain Locations (Zones)	AFA	AFA	AFA	0.04%
VAT Fixed Asset Refunds for Certain Industries	AFA	AFA	AFA	0.10%
Stamp Tax Exemption on Share Transfer	AFA	AFA	AFA	0.03%
FIE Land Tax Waiver	AFA	AFA	AFA	0.09%
Provision of Land for Less than Adequate Remuneration	AFA	AFA	AFA	16.02%
Provision of Inputs for Less than Adequate Remuneration: Hot-rolled Steel	AFA	AFA	AFA	156.45%
Provision of Inputs for Less than Adequate Remuneration: Stainless Steel Coil	AFA	AFA	AFA	1.39%
Provision of Inputs for Less than Adequate Remuneration: Rubber	AFA	AFA	AFA	0.25%
Provision of Inputs for Less than Adequate Remuneration: Electricity	AFA	AFA	AFA	0.07%
Provision of Inputs for Less than Adequate Remuneration:Biaxial-oriented Polypropylene	AFA	AFA	AFA	16.12%
Famous Brands Program	AFA	AFA	AFA	0.03%
Total				
Number of programs	-	-	-	

Appendix 5: China CVD rates in Canadian investigations

Product/Industry		***Steel Fastners***		***Laminate Flooring***	
Date of Initiation		April 28, 2004		October 4, 2004	
Date of Finding		December 9, 2004		May 17, 2005	
Company and Rate (% of EP)		Company	Rate	Company	Rate
		GOC	31.53%	Asia Dekor Industries	5.30%
				Beijing Kronoshnuhua	3.10%
				Fujian Yongan Forestry	8.70%
				Shanghai Everglory	0.30%
				Shanghai Oceanic Furniture	0.00%
				Sichuan Shengda	0.30%
				Vohringer Wood	2.00%
				Yekalon Industry	3.80%
				All Others (FA)	9.20%
		Country-Wide (AFA)	31.53%	Weighted Average	3.00%

Program	Steel Fastners	Laminate Flooring
Grants		
Export Assistance		
Debt-to-Equity Swap		
State Key Technology Renovation Projects		
Research and Development Assistance of Wuxing District		
Innovative Experimental Enterprise Assistance		
Key Enterprises in Equipment Manufacturing Industry of Zhongshan		
Loan Interest Assistance of Shenzhen Foreign Trade Development Fund		
Loan Interest Assistance for Investments in Fast-Growth-High-Yield Plantations		X
Superstar Enterprise		
Development Zone Management Committees Under the Authority of Town Governments		X
Newly Established Companies in the Pudong New Area of Shanghai		X
Supportive Fund Provided by Government of Xuyi in Jiangsu Province		
Loans		
Repaying Foreign Currency Loan by Returned VAT		
Preferential Income Tax Policies		
National Exemption for SEZs and Designated Areas		X
Local Deduction for Designated Areas		X
Preferential Policies Research and Development		
National Reduction for Export Oriented Enterprises		X
Productive FIEs Scheduled to Operate for 10 Years		X
FIEs in Industries and Sectors Where Investment is Encouraged		X
Re-Investment of Profits by Foreign Investor		X
Enterprises Operating in Forestry Industry		X
Domestic Enterprises Purchasing Domestically Produced Equipment		
Accelerated Depreciation on Fixed Assets in Tianjin Binhai New Area		
Relief from Duties and Taxes on Inputs		
VAT and Tariff Exemptions on Imported Equipment		X
VAT Refund for Production of Goods Using Fuel Wood and Other Low Value Wood		X
Purchase of Goods from SOEs		
Hot-Rolled Steel		

Product/Industry	***Copper Pipe Fittings***		***Carbon or Alloy Oil and Gas Casing***	
Date of Initiation	June 8, 2006		August 13, 2007	
Date of Finding	January 18, 2007		February 7, 2008	
Company and Rate (% of EP)	Company	Rate	Company	Rate
	Tianli Pipe Fitting	0.00%	Dalipal Pipe Company	3.00%
	Zhuji City Howhi Air Conditioners	0.00%	Hengyang Steel Tube Group	2.00%
			Shandong Molong Petro Machinery	2.00%
			Tianjin Pipe Corporation	7.00%
			Wuxi Seamless Oil Pipe	4.00%
			Energy Alloys	7.00%
	All Others (AFA)	51.00%	All Others (AFA)	38.00%
	Weighted Average (AFA)	51.00%	Weighted Average	19.00%

Program	Copper Pipe Fittings	Carbon or Alloy Oil and Gas Casing
Grants		
Export Assistance		
Debt-to-Equity Swap		X
State Key Technology Renovation Projects		X
Research and Development Assistance of Wuxing District		
Innovative Experimental Enterprise Assistance		
Key Enterprises in Equipment Manufacturing Industry of Zhongshan		
Loan Interest Assistance of Shenzhen Foreign Trade Development Fund		
Loan Interest Assistance for Investments in Fast-Growth-High-Yield Plantations		
Superstar Enterprise		
Development Zone Management Committees Under the Authority of Town Governments		
Newly Established Companies in the Pudong New Area of Shanghai		
Supportive Fund Provided by Government of Xuyi in Jiangsu Province		X
Loans		
Repaying Foreign Currency Loan by Returned VAT		X
Preferential Income Tax Policies		
National Exemption for SEZs and Designated Areas		X
Local Deduction for Designated Areas		X
Preferential Policies Research and Development		X
National Reduction for Export Oriented Enterprises		
Productive FIEs Scheduled to Operate for 10 Years		
FIEs in Industries and Sectors Where Investment is Encouraged		
Re-Investment of Profits by Foreign Investor		
Enterprises Operating in Forestry Industry		
Domestic Enterprises Purchasing Domestically Produced Equipment		X
Accelerated Depreciation on Fixed Assets in Tianjin Binhai New Area		X
Relief from Duties and Taxes on Inputs		
VAT and Tariff Exemptions on Imported Equipment		X
VAT Refund for Production of Goods Using Fuel Wood and Other Low Value Wood		
Purchase of Goods from SOEs		
Hot-Rolled Steel		

Product/Industry	***Carbon Steel Welded Pipe***		***Thermo Coolers and Warmers***	
Date of Initiation	January 23, 2008		May 15, 2008	
Date of Finding	July 21, 2008		November 10, 2008	
Company and Rate (% of EP)	Company	Subsidy / Ton*	Company	Rate
	Guangdong Walsall	1,130	Mobicool Electronic	0.80%
	Tianjin Shuangjie Steel Pipe	1,616		
	Weifang East Steel Pipe	1,449		
	Zhejiang Kingland Pipe	1,670		
	*Rates range from 25% to 113%			
	All Others (AFA)	5,280	All Others (AFA)	37.00%
	Weighted Average	73.00%	Weighted Average	9.90%
Program				
Grants				
Export Assistance		X		
Debt-to-Equity Swap				
State Key Technology Renovation Projects				
Research and Development Assistance of Wuxing District		X		
Innovative Experimental Enterprise Assistance		X		
Key Enterprises in Equipment Manufacturing Industry of Zhongshan		X		
Loan Interest Assistance of Shenzhen Foreign Trade Development Fund				X
Loan Interest Assistance for Investments in Fast-Growth-High-Yield Plantations				
Superstar Enterprise		X		
Development Zone Management Committees Under the Authority of Town Governments				
Newly Established Companies in the Pudong New Area of Shanghai				
Supportive Fund Provided by Government of Xuyi in Jiangsu Province				
Loans				
Repaying Foreign Currency Loan by Returned VAT				
Preferential Income Tax Policies				
National Exemption for SEZs and Designated Areas		X		X
Local Deduction for Designated Areas		X		X
Preferential Policies Research and Development				
National Reduction for Export Oriented Enterprises				
Productive FIEs Scheduled to Operate for 10 Years				
FIEs in Industries and Sectors Where Investment is Encouraged				
Re-Investment of Profits by Foreign Investor				
Enterprises Operating in Forestry Industry				
Domestic Enterprises Purchasing Domestically Produced Equipment				X
Accelerated Depreciation on Fixed Assets in Tianjin Binhai New Area				
Relief from Duties and Taxes on Inputs				
VAT and Tariff Exemptions on Imported Equipment				
VAT Refund for Production of Goods Using Fuel Wood and Other Low Value Wood				
Purchase of Goods from SOEs				
Hot-Rolled Steel		X		

Appendix 6: Summary of GTAP aggregations and experiments

GTAP 16x6x5 aggregation
Developed to analyze the competitive effects of Chinese subsidies.
****

I. SUMMARY
This version of GTAP uses a 16-sector, 6-region aggregation. The sectors are designed to isolate "absolute control" and "heavyweight industries from other sectors. Standard and long-run closures are employed in different simulations.

II. REGIONS AND COMMODITIES

The 6 regions are:

USA	United States of America
China	People's Republic of China
WestRim	West Rim of the Pacific, ex. China: Australia, New Zealand, Rest of Oceania, Hong Kong, Japan, Korea, Taiwan, Rest of East Asia, Cambodia, Indonesia, Lao, Myanmar, Malaysia, Philippines, Singapore, Thailand, Viet Nam, Rest of Southeast Asia, Bangladesh, India, Pakistan, Sri Lanka, Rest of South Asia
WestHem	Western Hemisphere, ex. USA: Canada, Mexico, Rest of North America, Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uraguay, Venezuala, Rest of South America, Costa Rica, Guatemala, Nicaragua, Panama, Rest of Central America, Caribbean
Europe	Europe: Austria, Belgium, Cyprus, Czech republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania,Luxembourg, Malta, Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, United Kingdom, Switzerland, Norway, Rest of EFTA, Albania, Bulgaria, Belarus, Croatia, Romania, Russian Federation, Ukraine, Rest of Eastern Europe, Rest of Europe
WAM	West Asia, Africa, Middle East: Kazakhstan, Kyrgyzstan, Rest of Former Soviet Union, Armenia, Azerbaijan, Georgia, Islamic Republic of Iran, Turkey, Rest of Western Asia, Egypt, Morocco, Tunisia, Rest of North Africa, Nigeria, Senegal, Rest of Western Africa, Central Africa, South Central Africa, Ethiopia, Madagascar, Malawi, Mauritius, Mozambique, Tanzania, Uganda, Zambia, Zimbabwe, Rest of Eastern

Africa, Botswana, South Africa, Rest of South African Customs

The 16 commodity sectors are:

Electricity	Electricity
Energy	Coal, oil, and gas
Petrochem	Petrol, chemical, and coal products
Trans	Air/sea transportation
Comm	Communications
Machinery	Machinery
Autos	Motor vehicles
Electronics	Electronic equipment
Construction	Construction
Steel	Iron and steel
Aluminum	Non-ferrous metals
OtUtil	Utilities (ex. electricity)
AgFd	Agriculture, livestock, meat, and food
OtEx	Other extraction
OtManuf	Other manufacturing
OtServ	Other services

Which are aggregated as follows:

Electricity:	Electricity
Energy:	Coal, oil, gas
Petrochem:	Petroleum, coal products; chemical, rubber, plastic products
Trans:	Sea transport, air transport
Comm:	Communication
Machinery:	Machinery and equipment nec
Autos:	Motor vehicles and parts
Electronics:	Electronic equipment
Construction:	Construction
Steel:	Ferrous metals
Aluminum:	Metals nec
OtUil:	Gas manufacture and distribution, water

AgFd:	Paddy rice; wheat; cereal grains nec; vegetables, fruit, nuts; oil seeds, sugar cane and sugar beet; plant-based fibers; crops nec; cattle, sheep, goats, and horses; animal products not elsewhere classified; raw milk; wool, silk-worm cocoons; bovine cattle, sheep and goat, horse meat products; meat products nec; vegetable oils and fats; dairy products; processed rice; sugar; food products nec; beverages and tobacco products
OtEx:	Forestry, fishing, minerals nec
OtManuf:	Textiles; wearing apparel; leather products; wood products; paper products and publishing; mineral products nec; metal products, excluding machinery; transport equipment nec; manufactured goods nec
OtServ:	Other transport nec, wholesale trade, retail trade, financial services nec, insurance, business services nec, recreation and other services, dwellings, and public administration, defense, health, and education

The 5 factors are: land, unskilled labor, skilled labor, capital, and natural resources.

III. EXPERIMENT FILES: SHOCKS, CLOSURES AND SOLUTION METHOD:

EXPERIMENTS, SHOCKS, AND CLOSURES

Experiment 1:
This experiment assesses the impact of removing a ten percent subsidy to aluminum producers in China. The subsidy is in the form of electricity prices sold at preferential rates to Chalco and other large aluminum producers. The altertax routine in GTAP is used to impose a 10 percent subsidy on aluminum industry purchases of electricity. The database resulting from this experiment is then shocked to eliminate the subsidized electricity price. The standard closure is applied, but government spending is fixed by swapping yg("China") and dpsave("China").

Experiment 2:
This experiment assesses the impact of preferential tax rates, preferential loan rates, and other subsidies on strategic and heavyweight industries. Subsidies to strategic and heavyweight industries are reduced by increasing China's output tax, "to", by amounts that reflects the subsidies uncovered in Part II of the report. The standard closure with fixed government spending in China is applied.

Experiment 3:
The equipment portion of U.S. capital stock in manufacturing has been stagnant since 2001 at a time of rising U.S. demand, rising trade deficits with China, and increasing capital investment in China's export-oriented industries by U.S. corporations. This experiment explores the economic impact of this dynamic by shifting a portion of China's

capital stock (an amount equal to 5% of the capital stock in strategic and heavyweight industries) to the United States, while also reducing subsidies to strategic and heavyweight industries in China. This experiment uses the standard closure and fixed government spending in China.

SOLUTION METHOD

Gragg 2-4-6 with automatic accuracy.