

The International Raw Materials Boom. A Challenge for Multilateral Trade Policy

MARTIN STÜRMER

The rule of thumb according to which 20 percent of the world's population consumes 80 percent of its raw materials no longer holds. Due to rapid industrialization in China and other developing countries hundreds of millions of people are coming to attain a standard of living previously available only to people in the industrialized countries. This new prosperity entails a rapidly increasing use of raw materials; the European Commission estimates that by 2025 global raw-material consumption could have increased fourfold (2005: 3).

Rapidly increasing demand has thoroughly transformed international raw materials markets in the last five years. Shortages and massive price increases are leading to competition between consumer nations. Many fear a »new Cold War« for raw materials (Follath/Jung 2006). These developments will present the multilateral world trade regime, which regulates trade in energy, agricultural, and metallic raw materials with new challenges.

Taking metals as an example, we shall analyze the development of the world trade regime since the end of the Second World War. We shall then present the new trade-policy challenges due to growing raw materials consumption, as well as the raw materials policy of China and other states. Finally, we shall discuss the first proposals for the development of multilateral regulation of raw materials markets.

Metallic Raw Materials – Not in Short Supply Geologically

Metallic raw materials are essential for industrialization and the building of infrastructure. They include such basic metals as copper, zinc, and steel, as well as their precursors, but also metals used in low quantities, such as tantalum and tungsten. Use, price, and market development are different from metal to metal. Here we can present only trends and use individual metals as examples.

Metallic raw materials are fundamentally distinguished from manufactured goods in terms of their high demand inelasticity. This means that when the market price increases, demand falls only a little in the short term. The specific characteristics of metallic raw materials can often be only poorly substituted by other metals or materials. Take copper, for example, as a conductive material for electricity or heat; possible substitutes, such as silver and gold, are either too expensive or, as in the case of aluminum, not equally robust.¹

The supply side is similarly inelastic; that is, despite increasing prices it is often not possible to increase supply in the short term. To be sure, metallic raw materials are available in sufficient quantities, in geological terms; the earth's crust comprises 8.1 percent w/w aluminum and up to 6.3 percent w/w iron. Even rarer metals, such as copper, represent long-term resources, comprising 0.0068 percent w/w of the total mass of the earth's crust. Moreover, metals are recyclable.

Shortages on world markets can arise, however, when increasing demand cannot be matched by new supply over the short term. It often takes 6–10 years to bring new mines into production. Frequently, a new works infrastructure including energy, water, roads, and accommodation has first to be established in remote areas. Licensing procedures take time. The necessary machinery, such as excavators, can have two-year waiting lists for orders. Furthermore, the discovery of suitable deposits is extremely risky. These factors make expanding raw materials supply a capital-intensive and time-consuming process.

The recycling of metals also has its limits. Many metals, such as copper, are used in long-lasting infrastructure, so that scrap is available to only a limited extent. This applies particularly in the case of developing countries that require large quantities of copper, but have virtually no scrap of their own.

As a result of the high inelasticity of demand and supply, periods of surplus supply or shortage recur constantly. In most raw materials markets prices develop in characteristic cycles, with strong price swings.

Additionally there are high import dependencies. Ore deposits are variably distributed by region, so that resource-poor states have to rely on imports from world markets. For example, Germany and Japan import almost 100 percent of their metallic raw materials for primary production.

1. For a good overview of individual metals, see USGS (2008) and RWI/BGR/ISI (2007).

Practically speaking, both states are more or less reliant on the import of metallic raw materials for their economies. Accordingly, multilateral trade policy as regards raw materials markets is taking on great significance. It determines the conditions under which a state can ensure its security of supply via world markets.

Raw Materials in the Multilateral World Trade Regime since the Second World War

The principles of the multilateral world trade system are based on the experiences of the Second World War.² In the 1920s and 1930s interstate trade in raw materials shrank due to increasing protectionism (Findley 2007: 471f). The fear of being cut off from raw materials imports was one of the main factors in the war strategies of Japan, Germany, and the USA (cf. Marshall 1995: 173; Copeland 1996; Nobutaka 1976). The Second World War was ultimately also fought between the »haves« and the »have-nots« over raw materials and »*Lebensraum*« (Muste 1967: 236).

In order to prevent a new impetus towards protectionism and to dismantle obstacles to trade after the Second World War the USA and Great Britain strove to set up an international trade organization. The Havana Charter of 1948, signed by 54 countries, formed the basis for this. The basic principle was to be that of »most favored nation.« This means that trade privileges granted to a partner to the agreement must also apply to other member states. Trade restrictions and a fragmentation of the world market in parallel with the zones of political influence of the pre-war period should be made impossible. Furthermore, the Havana Charter foresaw the dismantling of duties and restrictions on the import and export of raw materials.

In addition, a chapter all its own was dedicated to »intergovernmental raw materials agreements.« Producer and consumer countries were to

-
2. Raw materials have played a central role in the European unification process. The then French Foreign Minister Schuman proposed a common market for coal and steel, as well as the establishment of a supranational »High Authority,« the later European Commission, for its administration. This idea was implemented in the form of the European Coal and Steel Community in 1952, and was the first step towards political unification. Accordingly, in the EU there are no import or export duties and restrictions on trade in raw materials. Furthermore, the principle of non-discrimination applies to investments in the mining sector.

have equal rights in determining the implementation and management of such raw materials agreements. The aim was to achieve greater price stability and to strike a balance between producer and consumer countries (Gayi 2004: 9).

The Havana Charter never came into force, however, due to opposition in the US Congress, and negotiations on creating an international trade organization were abandoned in 1951. Instead, some of its trade policy principles lived on in the General Agreement on Tariffs and Trade (GATT). GATT remained, until the foundation of the World Trade Organisation (WTO) in 1994, the core mechanism of the multilateral world trade regime and, in a lightly revised form, is still one of the most important treaties in the WTO.³

Multilateral Trade Regulations on Raw Materials in GATT/WTO

The basic principle of GATT/WTO – as in the Havana Charter – is that of most-favored nation, to prevent discrimination and the fragmentation of markets. However, »regional agreements« between two or more treaty partners, which do not have to be close to one another geographically, make it possible to circumvent the ban on discrimination. Producer states can grant individual consumer countries preferential access to their raw materials reserves by means of lower export duties in exchange for political concessions.

Mining investments are not regulated within the framework of GATT/WTO. Consequently, there is no globally recognized agreement on the transparency of the allocation of mining rights, minimum environmental and social standards, or security of investments. Nor is there a common basis with regard to the application of competition law in WTO member states. This is why oligopolistic structures among multinational raw materials companies are difficult to prevent.

The chapter of the Charter on intergovernmental raw materials agreements was not included in the GATT/WTO. It attained normative validity – although it was not binding under international law – when the UN Economic and Social Council approved it in a resolution in 1947 (Zacher 1987: 179). On this basis from the 1960s to the 1980s a series of raw

3. Accordingly, henceforth we shall talk of GATT/WTO.

materials agreements were concluded in the agricultural sector. Among metals, only tin was dealt with within the framework of an intergovernmental raw materials agreement from 1956 to 1985. This was only of minor significance, however, and achieved nothing in terms of price stabilization (Meyer 2006: 19ff).

Export and import restrictions by means of quantitative licenses or quotas are forbidden under GATT/WTO. This also applies to export bans on raw materials. There are exceptions, however. For example, a member state can apply export restrictions in order to prevent or alleviate critical shortages of important products (Art. XI, para. 1 GATT/WTO). Apart from that, export restrictions may be imposed to protect finite natural resources if they are accompanied by the limitation of domestic consumption (Art. XX (g) GATT/WTO). Exceptions are also possible on the grounds of intergovernmental raw materials agreements (Art. XX (h) GATT/WTO). If such exceptions are applied they must satisfy the criterion of most-favored nation treatment and consequently only used on a non-discriminatory basis (Art. XIII, para. 1 GATT/WTO).

Import and export duties are in principle permitted within the framework of GATT/WTO. In raw materials trading, however, low tariffs can be similar in effect to export and import restrictions. In contrast to many manufactured goods there are only small margins in processing raw materials, so that even relatively low tariffs can give rise to major trade distortions. GATT/WTO provides a setting for negotiations in which these tariffs can be dismantled over the long term within the framework of world trade rounds. For this purpose member states reach agreement on tariff reductions by signing a document with »binding obligations.« The member states decide which tariffs are brought to the negotiating table in this way.

While in recent decades import tariffs on raw materials have been gradually reduced in negotiation rounds, as regards export tariffs the member states have not entered into any obligations because over the decades there has been a structural surplus in metallic raw materials on world markets. From the beginning of the 1970s to 2002 the price of copper moved within a range between around 1 000 and 3 000 dollars. Accordingly, protectionism – that is, defense on the part of raw materials producers against imports – was the biggest trade policy problem. The USA, for example, protected its mining sector against imports for most of the 1970s through tariffs. Negotiations within the framework of the GATT and later the WTO always referred to this classic protectionism. As a result,

import duties on metallic raw materials were steadily reduced. The USA in particular opened up its highly protected copper market to foreign competition. Non-tariff trade barriers, such as subsidies, were also gradually reduced in the negotiations (UNCTAD 1996).

On the other hand, virtually no »binding obligations« concerning export duties were adopted by the member states. It is true that this was one of the subjects of the Tokyo Round, and in the Uruguay Round there was a raw materials negotiation group that dealt with export duties as well. In general, however, the subject played a very subordinate role and in the end nothing was achieved in the negotiations. During the development of GATT/WTO export categories always prevailed. In the foreground stood the reduction of import duties for access to export markets. Given the raw materials surplus, however, competition for raw materials and the use of export tariffs and import subsidies were not relevant.

Structural Transformation on Raw Materials Markets

Since 2002 there has been a structural transformation of international raw materials markets (Wagner/Huy 2005). Prices for the whole range of raw materials have increased enormously. Metals have been to some extent more strongly affected than energy raw materials (International Monetary Fund 2007: 43). For example, between 2002 and 2006 the copper price increased by 560 percent.

The main reason for this price development is a change from buyers' to sellers' markets. For example, global demand for copper increased sharply between 2001 and 2006, from 14.9 to 17.1 million tonnes. Almost two thirds of this increase are due to China alone. This has gone hand in hand with a growing import dependency. So, for example, Chinese imports of cupriferous scrap increased by 13 percent to 5 million tonnes from 2006 to 2007 alone (RecyclingBizz 2008). No end of this development is in sight. In addition, it has been predicted that India will experience similar development in raw materials use (RWI/BGR/ISI 2006: 6).

Raw materials markets are therefore being determined by new actors, among which China is the most important. China is one of the biggest consumers of copper, steel, and aluminum. In 2007 the Chinese economy accounted for 37 percent of global steel consumption. The US share, by contrast, was only 10 percent. With China a new actor has come on the scene that differs fundamentally in terms of its view of the economy and

the state from the »old« industrialized countries. For example, the Chinese government considers the mining and metal industry as a strategic sector. It describes it as a »vital« branch of industry and as »essential for national security« (Bartimoro 2007: 1). Accordingly, the metal sector is to remain in state hands over the long term. The enterprises involved belong to either communes, regions, or central government, and are directed by the National Planning and Development Commission by means of various trade and economic policy mechanisms, so-called »macro management.«

The aim of the Chinese government is to organize the metal industry to supply the domestic market and to restrict exports severely. At the same time, the import of metals and mining abroad are actively promoted (Harman 2007a, 2007b). Overall, it is difficult to evaluate the motives of Chinese actors in the government and in enterprises. This has brought considerable uncertainty into raw materials markets. The same applies to actors such as Russia and even India.

Raw Materials Protectionism

The combination of new actors and increased competition for raw materials has led to a growing raw materials protectionism. For example, in 2006 China introduced export tariffs and restrictions on a whole series of metals, such as copper, tungsten, and iron ore. At the same time, China is subsidizing the import of iron and copper scrap, so that the scrap markets have at times been empty. One of the consequences is, for example, that the recycling quota for copper scrap in the EU fell from 49 percent in the 1990s to 41 percent in 2006. Furthermore, the Chinese government is using national metal reserves in order to control the inflow of raw materials.

Other important actors are pursuing similar strategies (cf. Deutsche Bundesregierung 2007a: 3). For example, as early as 1999 Russia and Ukraine imposed export duties on a whole range of scrap metals. In 2008 India, for example, has imposed export duties on iron ore exports in order to prevent exports to China (China-Interfax 2008: 1). There have also been calls in the European metal industry for the introduction of export duties.

An increase in raw materials diplomacy can also be observed. Large Chinese state companies make purchases in raw materials-rich developing

countries accompanied by state trade and cooperation agreements. For example, in 2008 the Chinese and Congolese governments concluded a comprehensive agreement on raw materials, according to which Chinese state companies will invest 3 billion dollars in Congolese mines and 6 billion dollars in the construction of roads and railways. In return, China's Sinohydro Corporation and China Railway Engineering Corporation will receive a 68 percent share in the Congolese state copper mining company Gecamines (Reuters 2008). Furthermore, China has concluded a comprehensive bilateral trade agreement with Chile. Chile is the largest producer of copper in the world and has now promised 50 percent of its production to Chinese companies.

In the area of copper alone China has reached agreement on 13 different mining projects abroad in the last two years. In contrast to multinational companies these state companies sell the raw materials obtained in this way mostly to Chinese companies and not to the highest bidder on the world market. At the same time, the large state companies have become important players on international raw materials markets. For example, with the help of the Chinese State Development Bank, state-owned Chinalco, the largest Chinese aluminum group, was able to buy a 9 percent share in the mining company Rio Tinto for 14 billion dollars.

The Chinese government has in this way indirectly become a major figure in the takeover battle between BHP-Billiton and Rio Tinto, the biggest and third biggest mining companies in the world, respectively. It remains unclear whether the intention behind this purchase is to block the takeover, or whether Chinese state companies themselves ultimately intend to take over Rio Tinto completely. For example, Baosteel, the largest state steel producer, is publicly considering making its own offer for Rio Tinto (Dyer 2008).

Other states are responding with similar strategies. For example, at the beginning of 2008 India signed a comprehensive cooperation treaty with the Congo to explore for copper and diamonds. The German government too, in its raw materials strategy, is calling on the metal industry for backward integration by means of raw materials extraction abroad (Deutsche Bundesregierung 2007a: 6f). There is a danger of a raw materials protectionist spiral and of a growing fragmentation of markets for metallic raw materials.

Power Shift in Favor of Producer Countries and New Challenges

As a result of the structural transformation in raw materials markets market power is shifting in the direction of producer countries. For the last 30 years it was possible for the consumer countries, due to surplus supply, to determine market conditions. In the 1970s there were efforts to establish producers' cartels and to nationalize mines. Falling demand in Western industrialized countries and falling prices caused these to break up after only a short time, however. One example is the copper cartel CIPEC, which was never able to obtain market power. Also, nationalizations, such as in Chile, contributed rather to the diversification of market actors and broke up existing producer cartels of multinational companies.

The supply shortage is increasingly enabling the producer countries to impose their conditions. For example, negotiations are currently ongoing on mining concessions and the introduction of new taxes in a number of African states, such as the Democratic Republic of Congo and Zambia (cf. Bariyo 2008: 1; Jones 2008: 1). At the same time, China and India are at their disposal as new partners. Olusegun Obasanjo, president of Nigeria from 1999 to 2007, sums it up as follows: »In the past we were unable to maximize profits from our mineral resources. We did not have a wide enough range of customers. The West had the whip hand. Things are different now. We give our oil to those who pay the most. Finally we are in a position to keep on raising the bar« (Sieren 2007). Used in the right way this new market power could offer raw materials-rich developing countries an opportunity for economic development and to fight poverty (cf. Sachs 2007).

Increasing raw materials consumption is leading to further damage to the environment. For example, problems with water and energy supply in the mining regions of South America and Southern Africa have intensified massively. Increasingly, deposits with lower proportions of ore are being mined. This means that greater quantities of mining waste have to be moved, which also increases the use of energy and water. Depending on the form of energy used this leads to increasing CO₂ emissions. In addition, smaller mines are resuming production and new mines are being opened in previously undeveloped areas and nature reserves (cf. Bleischwitz et al. 2008). While in the 1990s multinational companies were still trying to operate in an environmentally friendly way (for example, in Chile in the 1990s pollution in copper mining was reduced by 80 to

90 percent), Chinese companies in the main pay no heed to environmental standards.

In some countries, however, the shift in power relations has had a positive effect on social and working standards in the mining sector. Since many mines operate at full capacity and lack qualified workers, in Chile and Peru major concessions have been attained by strike action in the last four to five years. On the other hand, the social situation of workers in many African states remains very bad. This is particularly the case in small mines.

The First Signs of Reform of Multilateral Trade

These new challenges arising from the increasing raw materials consumption of developing countries make it necessary to revise and expand multilateral trade regulation.

The European Commission has already introduced a comprehensive proposal on export tariffs in the Doha Round negotiations (WTO 2006). Within the framework of a »WTO treaty on export tariffs« duties are to be abolished in the medium term. The least developed countries will at the same time be permitted over the long term to levy export duties on selected products while tariffs remain low. The exceptions cited in the GATT/WTO would remain in order to make it possible to use export tariffs flexibly for other purposes, for example, the prevention of monetary crises. It is important that such a restriction of export tariffs does not infringe states' sovereign rights to determine the extraction of their own mineral resources. They would remain free to issue extraction licenses or permit mining by state companies.

This proposal would make it possible to check raw materials protectionism. The most important consumer and producer states as regards metallic raw materials (with the exception of Russia, which is not a member of the WTO) would in the medium term have to abolish their export tariffs on metallic raw materials and secondary raw materials. Alongside the WTO's dispute resolution mechanism there would be an effective means of punishing raw materials protectionism in the form of imposing penalty tariffs on the exported manufactured goods of the respective country. In this way the regulations on exports and raw materials import markets could be linked and the political and economic costs of raw materials protectionism increased.

Such an »agreement on export tariffs« would also put a stop to a fragmentation of raw materials markets by means of bilateral trade agreements: If export tariffs were no longer permitted at multilateral level no particular concessions could be granted within the framework of such agreements. It remains a problem that import subsidies remain inadequately regulated. Here Article XVI, paragraphs 1 and 2 of the GATT/WTO, which define import subsidies as »any subsidy, including any form of income or price support, which operates ... to increase exports of any product from its territory,« as well as Article 3.1 of the Agreement on Subsidies and Countervailing Measures would have to be extended to imports.

Furthermore, an agreement on investments in the mining and raw materials sector would be necessary under the umbrella of the WTO. This must take place in cooperation with the raw material-rich countries. Such an agreement should leave it up to producer states to what extent they nationalize or privately organize their raw materials industries. What is needed is the transparent and non-discriminatory allocation of extraction licenses and a commitment to environmental and social standards for foreign investments in mining. This would also involve reducing state subsidies for foreign investments.

It is questionable whether it would be possible to implement such agreements within the framework of the WTO. For example, the negotiations of the Doha Round are currently stalled. The proposals put forward by the USA and the EU on investment regulations and on environmental and social standards have already been rejected. The EU proposal on export tariffs is still part of the Doha Round. It has run up against resistance from China and other developing countries, however.

The approach of these proposals was cross-sectoral, however, and included the broad range of commodities. Accordingly, it would be worth considering negotiating the problems of raw materials protectionism and their environmental and social consequences within the framework of a sectoral WTO agreement on trade and investment in the raw materials sector. In this way the negotiating partners would be better able to deal with the special characteristics of raw materials markets.

Conclusion

The multilateral world trade system is barely adequate to meet the new challenges arising from increasing raw materials consumption in the de-

veloping countries, as well as the increased competition for raw materials. Raw materials policy was an important part of the G8 meeting at Heiligendamm. However, only soft regulation was discussed (Deutsche Bundesregierung 2007b: 6). The Extractive Industries Transparency Initiative, which calls for the disclosure of raw materials revenues in developing countries, and raw materials certification are important initiatives from a development policy perspective.

A comprehensive approach would have to make possible a new balance between producer and consumer countries in order to prevent a race for raw materials and a fragmentation of world markets based on »neo-colonial« spheres of influence. For this purpose what is needed is recognition of the development policy interests of many producer states. China's fear of an oligopolization of the iron ore market by multinationals should also be taken seriously.

Trade in raw materials was the focus of the Havana Charter 60 years ago. Its regulations could form the point of departure of a WTO agreement on trade and investment in the raw materials sector. Consumer and producer countries should negotiate rules that make possible non-discriminatory raw materials markets and mining investments and are adequate in respect of the new environmental and social dimensions. The international community should learn the lessons of the great conflicts over raw materials of the nineteenth and twentieth centuries and lay down fair rules on raw materials trade in the twenty first century. A better understanding of raw materials markets in a multipolar world order could contribute a great deal to shaping it in a cooperative way and so to lasting peace.

Bibliography

- Bariyo, Nicholas (2008): »Zambia Lawmakers Start Debating New Mining Taxes – Official,« in: *Dow Jones Newswires*, February 7, <http://www.nasdaq.com>.
- Bartimoro, Maria (2007): »Beijing Sees No Bar to Growth – Yet,« in: *Financial Times China*, January 16th, <http://www4.ftchinese.com>.
- Bleischwitz, Raimund; Lucas, Rainer; Krause, Melanie; Stürmer, Martin (2008): »Kupfereffizienz. Unerschlossene Potentiale, neue Perspektiven.« Wuppertal: Wuppertal Institut für Klima, Umwelt, Energie.
- Chan, Carol (2008): »China Metallurgical in \$400Am Iron Mine Deal,« in: *South China Morning Post*, February 27, 3.
- China-Interfax (2008a): »Indian Iron Ore Export Tax May Deter China,« in: *Resource Investor*, January 15, <http://www.resourceinvestor.com>.

- Copeland, Dale C. (1996): »Economic Interdependence and War. A Theory of Trade Expectations,« in: *International Security*, Vol. 20: 5–41, <http://www.mtholyoke.edu>.
- Deutsche Bundesregierung (2007a): »Elemente einer Rohstoffstrategie der Bundesregierung,« Berlin, <http://www.bmwi.de>.
- Deutsche Bundesregierung (2007b): »Growth and Responsibility. Leitmotiv for Germany's G8 Presidency,« Berlin, <http://www.g-8.de>.
- Dyer, Geoff (2008): »Chinalco Keeping Its Options Open,« in: *Financial Times*, February 7, <http://www.ft.com>.
- European Commission (2005): »Thematic Strategy for a Sustainable Use of Natural Resources.« Communication of the Commission to the Council, the European Parliament, The European Economic and Social Committee and the Committee of the Regions, Brussels, <http://ec.europa.eu>.
- Findlay, Ronald; O'Rourke, Kevin H. (2007): *Power and Plenty. Trade, War, and the World Economy in the Second Millennium*. Princeton/Oxford.
- Follath, Erich; Jung, Alexander (eds.) (2006): *Der neue Kalte Krieg. Kampf um die Rohstoffe*. München: Deutsche Verlags-Anstalt.
- Gayi, Samuel K. (2004): »Commodity Agreements. Any Relevance in the New Multilateral Trading System?,« in: *Seatimi Bulletin*, Vol. 7, No. 17, 1–8, <http://www.seatimi.org>.
- Harman, David (2007a): »China to Further Control Copper and Copper Product Exports,« in: *Resource Investor*, April 16, <http://www.resourceinvestor.com>.
- Harman, David (2007b): »China to Impose or Increase Export Tax on Metal Products on June 1,« in: *Resource Investor*, May 22, <http://www.resourceinvestor.com>.
- International Monetary Fund (IMF) (2007): *World Economic Outlook. Spillovers and Cycles in the Global Economy*, Washington.
- Jones, Jim (2008): »DRC Welcomes Investment as It Reviews Earlier Contracts,« in: *Resource Investor*, February 5, <http://www.resourceinvestor.com>.
- Louis, Jane (2008): »Better Pay in South Africa Lures Away More than Half Zimbabwe's Skilled Workers,« in: *Resource Investor*, February 11, <http://www.resourceinvestor.com>.
- Marschall, Jonathan (1995): *To Have and Have Not. Southeast Asian Raw Materials and the Origins of the Pacific War*. Berkeley/Los Angeles/Oxford.
- Meyer, Peter (2006): *Macht, Gerechtigkeit und internationale Kooperation. Eine regime-analytische Untersuchung zur internationalen Rohstoffpolitik*. Baden-Baden: Nomos.
- Muste, Abraham J. (1967): »Where Are We Going?,« in: Hentoff, Nat (ed.): *The Essays of A. J. Muste*. New York: Simon and Schuster.
- Nobutaka, Ike (ed.) (1967): *Japan's Decision for War. Records of the 1941 Policy Conferences*. Stanford: Stanford University Press.
- Norddeutsche Affinerie AG (2007): *The Year of Copper*. Annual Report 2005/2006, Hamburg, <http://www.na-ag.com>.
- RecyclingBizz (2008): »China May Introduce 17% VAT on Scrap Metal.« <http://www.recyclingbizz.com>.
- Reuters (2008): »China to Pump \$9bn into DRC Economy,« in: *Engineering News*, February 15, <http://www.engineeringnews.co.za>.

- Rheinisch-Westfälisches Institut für Wirtschaftsforschung Essen (RWI)/Fraunhofer-Institut für System- und Innovationsforschung (ISI)/Bundesanstalt für Geowissenschaften und Rohstoffe (BGR) (2006): *Trends der Angebots- und Nachfragesituation bei mineralischen Rohstoffen*, <http://www.isi.fraunhofer.de>.
- Sachs, Jeffrey D. (2007): »How to Handle the Macroeconomics of Oil Wealth,« in: Humphreys, Macartan; Sachs, Jeffrey D.; Stiglitz, Joseph E. (eds): *Escaping the Resource Curse*. New York: Columbia University Press, 173–193.
- Sieren, Frank (2007): »China hat etwas, was wir brauchen.« Nigerias scheidender Präsident Olusegun Obasanjo über die Zusammenarbeit mit den Chinesen, Menschenrechte und Klimaschutz in Afrika,« in: *Frankfurter Allgemeine Zeitung*, February 18th, 16.
- United Nations Conference on Trade and Development (UNCTAD) (1996): *The Uruguay Round and the World Copper Market. A Preliminary Overview*, <http://www.unctad.org>.
- United Nations Conference on Trade and Development (UNCTAD) (2000): *Trade Agreements, Petroleum and Energy Policies*. New York/Geneva: United Nations, <http://www.globalprogramme.com>.
- United States Geological Survey (USGS) (2008): *Mineral Commodities Summary 2008*, Washington D.C., <http://minerals.usgs.gov>.
- Wagner, Martin/Huy, Dieter (2005): »Schafft der Strukturwandel in der Nachfrage eine neue Dimension für die Weltrohstoffmärkte?« in: *Commodity Top News der Bundesanstalt für Geowissenschaften und Rohstoffe*, No. 24, <http://www.bgr.bund.de>.
- World Trade Organisation (WTO) (2006): »Negotiating Proposal on Export Taxes.« Communication from the European Communities, <http://www.meti.go.jp>.
- World Trade Organisation (WTO)/United Nations Conference on Trade and Development (UNCTAD)/International Trade Center (ITC) (2007): *World Tariff Profiles 2006*. Geneva: WTO/UNCTAD.
- Zacher, Mark W. (1987): »Trade Gaps, Analytical Gaps: Regime Analysis and International Commodity Trade Regulation,« in: *International Organization*, Vol. 41, No. 2 (Spring), 173–202.