

Beyond the Arms Embargo: EU Transfers of Defense and Dual-Use Technologies to China

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China has largely been cut off from direct transfers of military systems and technologies since the announcement of the EU arms embargo in 1989. Nevertheless, the EU and its member states remain a major source of high technologies for China, namely, by means of trade, investment, and scientific cooperation. This is mainly because the EU-China relationship continues to be dominated by the economic interests of individual member states, both in trade and increasingly in investments. Furthermore, due to a lack of direct security interests in the Asia-Pacific, Europeans do not generally see China as a security threat or a strategic competitor. Therefore, the EU has so far failed to develop a strategic approach toward the potential security implications of transfers of European militarily sensitive technologies that goes beyond the existing arms embargo and currently lacks effective mechanisms to control the flow of such technologies to China. **KEYWORDS:** China, European Union, technology transfers, dual-use technology, arms embargo, trade controls

ONE DECADE HAS PASSED SINCE THE PEOPLE'S REPUBLIC OF CHINA (PRC) and the European Union (EU) agreed to enter into a "comprehensive strategic partnership." In the early 2000s, both sides were optimistic that they could increasingly align their mutual interests and jointly tackle global challenges, including security-related issues such as regional conflicts and the proliferation of weapons of mass destruction.

Despite an ever growing number of high-level summits, sectoral dialogues,¹ forums, and cooperation agreements, the relationship remains dominated by economic and trade issues, while security interests at best play a secondary role. The EU and its member states have so far failed to develop a strategic approach toward Chinese

efforts to modernize the People's Liberation Army (PLA). Beijing's continued push to develop a modern defense and dual-use science, technology, and industrial base (D²STI) has not led to a debate about the potential security implications of transfers of European militarily sensitive technologies to China. On the contrary: Despite frequent Chinese complaints about alleged European restrictions on technology exports, the EU remains a major source of high technology for China—also in dual-use-sensitive areas such as aerospace and information and communication technology (ICT). While the debate about the EU arms embargo has been widely covered by analysts across the Atlantic and in China, the potential security impact of the broader EU-China relationship is much less understood. In this article I will discuss why the European Union and its member states have not been able to develop a strategic approach to technology transfers to China.

In the second part of this article, I will briefly sketch the historical development of Europe's approach toward transfers of militarily relevant technology to China, from the start of the reform and opening up in 1978 to the impact of the Tiananmen incident in June 1989 and including the most recent developments. I will also include a brief recap of the debate on the EU arms embargo on China, which in the European context is not linked to hindering Chinese military modernization efforts but is still seen basically as a human rights issue. In the third part of this article I will analyze EU-China dual-use technology transfers and provide an overview of the EU export control system and some (potential) additional control mechanisms. I will also demonstrate the difficulties the EU is facing in effectively controlling dual-use technology transfers to China in an age where these transfers increasingly take place by intangible means and where an ever growing number of technologies can be categorized as "dual-use." In the fourth part I will discuss European threat perceptions of China as a security actor: China is generally not perceived as a threat to European security. This is due mainly to the geographical distance between China and Europe, as well as the lack of direct European security interests in the Asia-Pacific region. Instead, the relationship remains dominated by trade and investments. Besides these purely commercial interests, exchanges in science and technology (S&T) are also seen as beneficial by academic institutions and research bodies in the public and private sectors.

As a result, China is not a major target of EU trade controls, but is rather seen as an important partner in fighting the proliferation

of biological, chemical, and nuclear weapons of mass destruction (WMD).

Focus on the Arms Embargo

Before Tiananmen

Traditionally, European nations have been more open to a broad range of exchanges with the People's Republic of China than the United States. During the early Cold War era, Western European nations nevertheless participated in the US-led sanctions regime directed at the Soviet bloc, which at the time was defined to include China as well. Twelve of the fifteen countries that participated in the China Committee (CHINCOM) of the Consultative Group (CG), which was organized to implement trade controls with Soviet bloc countries, were Western European countries (and later NATO member states).² Mirroring its Soviet-directed sister institution, the Coordinating Committee for Multilateral Export Controls (COCOM), CHINCOM, which had been established in July 1952, was intended to create an export control regime aimed at depriving the Communist bloc of militarily sensitive goods. While the COCOM regime was liberalized in 1954, CHINCOM continued to control around two hundred items that were not embargoed to the Soviet Union and Eastern Europe, in what became known as the "China Differential."

However, the Western European members turned out to be difficult partners, with France and the UK³ especially pushing for a reduction of controls vis-à-vis the PRC. Both countries, and also Japan, saw the CHINCOM restrictions as ineffective, since nonstrategic and dual-use goods controlled through CHINCOM could be transshipped through the Soviet Union and because they fostered Beijing's political and economic dependence on Moscow (Rodman 2001, 28). The Western allies also regarded the embargo as harmful to the revival of their own war-torn economies and to the economic development of their Asian colonies that would benefit from trade with the PRC (Zhang 2001, 134 et seq.). Washington resisted European pressure to liberalize the embargo against Communist China, and CHINCOM eventually fell apart with the UK withdrawing in 1957 and the rest of the allies following suit shortly thereafter. By contrast, the United States continued to implement strict controls on trade with and transfers of sensitive technologies to China into the late 1970s.

After Deng Xiaoping introduced his reform and opening (*gaige kaifang*) policy in 1978 and after the United States had established diplomatic relations with the PRC in 1979, the Western European states dramatically increased their political and economic exchanges with China. Formal diplomatic relations between the European Community (EC) and China had already been established in May 1975 and in May 1985 both sides also signed a four-page Trade and Economic Cooperation Agreement, which to this day serves as the formal basis of the EU-China relationship. In the 1980s, Western European NATO member states (mostly France, Germany, Italy, the Netherlands, and the UK) also transferred a significant amount of both defense and dual-use technologies to China. These included French Thomson CSF Crotale Natale air defense missiles, 140 British Rolls Royce Spey turbofan engines for JH-7 combat aircraft, and German MTU diesel engines for Chinese destroyers and submarines, all of which helped upgrade the PLA, which was still recovering from years of neglect during the Cultural Revolution era (1966–1976) (Duchâtel and Sheldon-Duplaix 2012). This happened with the acquiescence of the United States, which also exported weaponry to China during the 1980s, including twenty-four S-70/UH-60A Sikorsky Black Hawk helicopters, two General Electric LM2500 gas turbines for a Luhu (Type 052) destroyer, and two Hughes AN/TPQ-37 Firefinder mobile radar systems.⁴

The Aftermath of Tiananmen

Discussions on the security implications of European technology transfers to China often focus rather narrowly on the EU arms embargo on China. The embargo was enacted in response to the bloody crackdown on protesters on and around Tiananmen Square in Beijing on June 4, 1989. After the United States had imposed its sanctions on June 5, 1989, the then twelve member states of the EC enacted the embargo on occasion of the European Council meeting in Madrid on June 27. The European Council also adopted six more punitive measures in its “Declaration on China.”⁵ However, these sanctions did not last very long and within one year all of them were lifted, apart from the fragment “and an embargo on trade in arms with China.”

While countries like Japan and Australia had been much more forthright in lifting their sanctions against China and abolished them wholesale in the early 1990s, the European embargo remained a highly controversial issue within Europe. The main reason is that the

embargo was enacted before the 1992 Maastricht Treaty came into force. At that time, the EU had not yet been established and its Common Foreign and Security Policy (CFSP) mechanism did not yet exist. Therefore, the embargo formally presented a “political declaration” without any direct legally binding effect. In this respect, it differed greatly from the US embargo, which was inserted in US law. In practice this means that the “EU arms embargo” actually consists of “a series of national arms embargoes established under national laws and regulations” and “that the decision to maintain or lift the embargo as well as the decision about how to interpret its scope is a national decision for each of the EU member states” (Anthony 2005, 11). Since 1989, the EU has not been able either to lift the embargo or to revise its legal form under one of the CFSP instruments. This continued legal ambiguity has led to two major consequences:

1. EU member states have developed different interpretations of the scope of the arms embargo: Some member states, for example, Sweden, maintain a very strict interpretation that prohibits any arms exports to China (and, as a result of the one-China policy, also to Taiwan). Other member states allow the export of certain categories of military and dual-use technologies to China, for example, France (“non-lethal systems,” e.g., naval and aircraft electronics and radar systems), Germany (only diesel engines for naval platforms), and the UK (embargo only includes “lethal weapons that are likely to be used for internal repression”).⁶
2. While the embargo has thus not fully stopped the export of arms to China, it has helped keep it on a relatively low level. Exports of major conventional arms to China by the EU4 (France, Germany, Italy, and the UK) surpassed the pre-embargo peak of 1989 (US\$107 million) already in 1994 (US\$136 million) and peaked again in 2004, at the height of the arms embargo debate (US\$387 million). Between 2005 and 2012 EU4 arms exports to China remained stable at an average of around US\$250 million per year and accounting for a moderate 12 percent of China’s total arms imports in the period from 2004 to 2012. By comparison, 79 percent of China’s imports during the same period came from Russia (SIPRI Arms Transfers Database 2013). Another effect of the arms embargo is the nonexistence of joint defense R&D programs between Chinese and European companies.

*The Arms Embargo Debate:
Between Beijing and Washington*

Since the 1990s, there have been several attempts to lift the embargo. All of these attempts have failed, due to both US pressure and a continued lack of consensus within the EU. The most forceful of these attempts took place in the early to mid-2000s, when the leaders of several EU member states (especially France and Germany) supported lifting the arms embargo on China. Beijing had stepped up its diplomatic efforts to get the embargo lifted starting in 2000 and it had also included this demand in its first (and so far only) EU policy White Paper (Ministry of Foreign Affairs of the PRC 2003). The Chinese side, supposedly the EU's "strategic partner" since 2003, considered the embargo a degrading reminder of historical inequality that also put Beijing in the same category as other EU-sanctioned "rogue states," such as Belarus, Sudan, and Zimbabwe. Proponents within the EU of lifting the embargo further saw the embargo as an anomaly that was hindering the development of a "normal" relationship with Beijing—and that was damaging European business interests in China. Although many EU member states remained skeptical (e.g., the Scandinavian and formerly Communist Eastern European countries), the European Council decided to review the embargo at its meeting on December 12–13, 2003, and in the joint statement of the seventh annual EU-China Summit in 2004 the EU "confirmed its political will to continue to work towards lifting the embargo" (Council of the EU 2004).

The years 2004 and 2005 then saw a fierce debate on the issue, both intra-EU and across the Atlantic. US threats to limit transatlantic defense cooperation and to sanction European arms companies doing business with China clearly demonstrated the divergence in the transatlantic perceptions of the security implications of China's rise, and US pressure aggravated the split in the EU among those for and against lifting the embargo. The ratification of the so-called Anti-Secession Law⁷ directed at Taiwan by the National People's Congress in March 2005 further strengthened the position of those opposed to lifting the embargo on the grounds that China continued to pose a military threat to Taiwan. Opposition also grew stronger both in the media and in parliaments across the continent, with the European Parliament voting 431–85 against supporting a lifting of the embargo in April 2005 (European Parliament 2005). The initiative lost further steam as some of its strongest supporters—such as Ger-

man chancellor Gerhard Schröder and French president Jacques Chirac—were replaced by far less enthusiastic successors in the following years.

In addition, European critics of China's human rights record have grown increasingly vocal in the aftermath of the March 2008 Tibetan riots and the continued persecution of dissidents, such as the 2010 Nobel Peace Prize winner Liu Xiaobo. Both the EU and individual member state governments have since returned to linking the arms embargo to the development of the human rights situation in China, although mostly in domestic forums and less in exchanges with their Chinese counterparts.⁸

While in practice this has led to an indefinite postponement of the EU's decision on lifting the embargo, the issue remains highly controversial and has been brought up time and again by different leaders and governments from across the EU, at least until the late 2000s.⁹ In December 2008, the EU Council adopted an updated and strengthened version of the 1998 EU Code of Conduct on Arms Exports as a legally binding common position. It identifies eight criteria for assessing EU arms exports to third countries; these include human rights and regional peace, security, and stability (Official Journal of the European Union 2008). However, this strengthening of EU arms export controls neither led to a revision of the arms embargo, nor did it help to reduce US pressure on the issue.

Since 2010 the debate has run cold and both Chinese and European officials have generally avoided even using the term "arms embargo" in their official exchanges (Hellström 2010, 20–21). Chinese officials and analysts now prefer referring vaguely to alleged "European restrictions on high-tech exports" or even a "ban on high-tech exports to China" and pointedly link the issue to the EU's growing deficit in trade with China (Ding and Fu 2012). On the one hand this shows that both Chinese and European leaders have given up hope on a short-term solution to the arms embargo question. On the other hand, it also illustrates the move away from a rather narrow focus on transfers of strategic goods and the arms embargo, the impact of which could mostly be found in the realm of political symbolism. As China transforms and upgrades not just its armed forces but its economy as a whole, future debates are most likely to focus on the potential security implications of dual-use high technologies. In areas such as aerospace and ICT the arms embargo plays at best a subordinated role and EU-China cooperation is already extensive.

Dual-Use Technology Transfers as a Loophole?

As a result of the US and EU arms embargoes, China was largely cut off from transfers of modern Western defense technologies since 1989. Since the late 1990s, Beijing has therefore made the integration of the civilian and defense technology and industrial bases a key priority. By promoting civil-military integration (CMI, or *Junmin Yitihua*) Beijing wanted to revitalize the Chinese defense industry and promote the modernization of the PLA. This included building a dual-use economy (Yujun Yumin), and “especially the establishment of a civilian apparatus that has the technological and industrial capabilities to meet the needs of the PLA and the defense economy” (Cheung 2009, 9). Together with a growing number of advanced technologies that have both civilian and military applications (or dual-use technologies), this blurring of the civilian and defense technology and industrial bases has made it increasingly difficult to distinguish clearly between transfers of purely civilian or purely military technologies.

In addition, transfers of technology and know-how today include both the transfer of physical goods through trade and intangible technology transfers (ITT). ITT have become increasingly significant vis-à-vis the physical movement of goods in today’s globalized world and present a major challenge to any control efforts. Transmitted by intangible means, this form of technology transfer includes both the transfer of technical information via electronic means (e.g., email, software, or telephone) and the transfer of knowledge and skills by persons (e.g., technical assistance, research papers presented at academic conferences, etc.) (Bauer and Micic 2010, 454–456).

Dual-use technology transfers with China mostly take place in the form of trade and investment, as well as broader S&T cooperation, for example, through joint research in academia or industry. EU-China exchanges in dual-use areas are extensive, for example, in commercial aviation, space technology, ICT, material science, mechanical engineering, nuclear physics, and others. There have also been a growing number of reports about alleged Chinese cyber-theft of dual-use technologies from EU companies and research institutions. While EU dual-use technology transfers to China are generally difficult to quantify (due to their often intangible nature), their impact on PLA modernization is even less understood or discussed.¹⁰ As a result, there exists a serious lack of mechanisms to control or at least monitor the amount and specific nature of the transferred technologies. Given Chinese efforts to build an advanced dual-use

economy, transfers of dual-use technology and know-how through EU-China trade and scientific cooperation might serve as a loophole that allows Beijing to circumvent the arms embargo and to acquire militarily relevant technologies.

EU-Level Dual-Use Export Controls

European export controls only seem to have a very limited impact on transfers of dual-use technologies to China. There are two main reasons for this: First, China is not considered a principal target of these controls. EU export controls are primarily focused on preventing the proliferation of biological, chemical, and nuclear WMD and fighting global terrorism. In both areas, the EU clearly regards China as a partner, and not as a problem (Anthony 2005, 2). This is especially true in the area of nonproliferation, where the EU actively tries to spread its norms by cooperating with China (and other third countries) in EU-OUTREACH Pilot Projects.¹¹

Second, the multilevel structure of EU dual-use export controls poses a number of challenges (and not just with regard to China). Three different levels of the regime (international, supranational, and national) provide for a unique system of export controls that integrates all internationally agreed dual-use controls. However, the member-state level remains key in export controls and sensitive exports are therefore ultimately guided by the national interests of individual member states.

European exports of dual-use items are governed by a single primary legislation adopted at the EU level that is binding upon all member states—the 2009 EU Dual-Use Regulation (Official Journal of the EU 2009). The dual-use regulation aims to implement all internationally agreed dual-use controls, including the Wassenaar Arrangement, the Missile Technology Control Regime (MTCR), the Nuclear Suppliers Group (NSG), the Australia Group, and the Chemical Weapons Convention (CWC). Annex I of the dual-use regulation lists controlled technologies in ten categories.¹²

In addition, dual-use technology transfers by means of technical assistance are covered by an EC Joint Action (Official Journal of the EU 2000). This means that the member states have committed themselves to implement its guidelines by producing the necessary national legislation.

As supranational law, the EU dual-use regulation is directly applicable in all twenty-eight member states. These are left considerable room for interpreting and implementing the regulation: Each

state is required to take the necessary steps to implement and enforce the regulation and to put in place the necessary national laws and sanctions for violations (Bauer and Micic 2010, 463). These are then interpreted and executed by national export control authorities such as the British Export Control Organisation (ECO) or the German Federal Office of Economics and Export Control (BAFA). While many smaller member states just use the regulation directly, larger trading nations, such as Germany,¹³ have passed a number of additional laws to complement the EU dual-use regulation.

The multilevel structure of the EU dual-use export control system poses a number of problems: First, licensing decisions remain susceptible to the national and economic interests of the individual member states. The regulation requires member states to apply the guidelines adopted in export control regimes in their export licensing decisions. However, it is for each member state to decide how to interpret the guidelines when judging each application for a license. As a result, there is the danger of an incoherent implementation that might lead to so-called license shopping.

Second, the so-called catch-all-clause in Article 4 of the regulation that supplements the list of controlled technologies in Annex I is only partially applicable in the case of China. Subparagraph 4.1, which is targeted at biological, chemical, and nuclear WMD applies everywhere, including China. However, the subparagraphs 4.2 and 4.3, which are targeted at non-WMD-related dual-use technologies, require a license for any item exported to a military end user to support items that were previously acquired illegally from the EU or to a military end user in a country that is subject to an arms embargo decided by a Council common position or joint action. As the EU embargo on China predates the introduction of common positions and joint actions by the Maastricht Treaty, these subparagraphs do not apply to China.

The third and final problem is that the system does not provide an official overview on the level of the volume and nature of European dual-use technology exported to China. Such an overview would be helpful in evaluating the potential impact of EU technology transfers on the modernization of the Chinese defense industry. However, under the dual-use regulation, member states are not required to report the volume and type of licenses that they have granted. Instead, they only need to report license denials. This reluctance to share information on dual-use exports is mainly due to industrial policy considerations by the individual member states.

In any case, the number of license denials for dual-use transfers to China seems to be very low. European and member state officials estimate that the share of license denials in dual-use exports to China is below 10 percent. One member state official speculated that one reason for this low rate of denials might lie in the fact that the Chinese side was generally avoiding license applications that might raise suspicion and were likely to result in denials.¹⁴ However, due to the lack of transparency of the EU dual-use licensing system, it is impossible to determine whether this low rate of denials is the result of Chinese cautiousness or European openness.

A Patchwork of Additional Member State Measures

In addition to the formal EU dual-use export controls that deal mostly with the transfer of physical goods, EU member states are implementing some additional measures that are aimed at preventing intangible and sometimes illicit transfers of dual-use technologies and know-how. Member state measures suffer from a lack of both intra-EU and intrastate coordination that results from the divergent interests in, competition for, and asymmetric distribution of resources among the myriad actors involved in S&T cooperation with China (member states, individual government ministries, local authorities, business associations, companies, universities, and so on).

As a result, member state efforts focus mostly on raising awareness and are usually spearheaded by domestic intelligence services and export control authorities of the individual member states. For example, the German Federal Office for the Protection of the Constitution (Bundesamt für Verfassungsschutz or BfV) and BAFA provide brochures containing information on proliferation risks and the relevant legal regulations.

In academia, as of yet, there is no institutionalized European version of the US National Security Higher Education Advisory Board (NSHEAB). The NSHEAB, which was created in 2005 and is supposed to meet at least three times per year, “consists of the presidents and chancellors of several prominent U.S. universities, is designed to foster outreach and to promote understanding between higher education and the Federal Bureau of Investigation” on matters related to terrorism, counterintelligence, and homeland security (US FBI 2005). Because academic freedom is legally enshrined in both European and member state law, European efforts seem to be rather ad hoc and limited.¹⁵

While most EU member states remain opposed to restricting S&T exchanges with third countries through national laws and regu-

lations, France passed a law “To protect the national scientific and technological potential” in November 2011 (in the form of a prime ministerial decree) (Legifrance 2011). The law, which is currently being implemented by the relevant government institutions (such as the French Ministry of Education), requires a security clearance for all persons working in any one of thirty-eight “protected sectors” (*secteurs protégés*, e.g., astronomy/astrophysics, nuclear physics, and defense technologies) or in “specially protected areas” in enterprises and labs (*zone à régime restrictif*, i.e., restricted access to areas related to national defense, the proliferation of WMD, terrorism, or the storage of hazardous materials). The order also stipulates that research interns and PhD students who want to do research in a protected area need to provide extensive background materials (Legifrance 2012).¹⁶ So far, France seems to be the only EU member state that has enacted such a law and the French advance does not seem to be part of a larger, coordinated EU-wide approach.

Another way to control the intangible transfer of dual-use technologies to China could be the application of visa screening procedures. These could be used to identify Chinese students and researchers who might be involved in dual-use-sensitive courses or research projects. However, there are no EU-wide mechanisms or guidelines that would provide a basis for such background checks. The UK, which is not a part of the twenty-six-member Schengen Area, operates the so-called Academic Technology Approval Scheme (ATAS). ATAS was introduced in 2007 and requires background checks for students who are not from the UK, Switzerland, or the European Economic Area (EEA, includes all twenty-eight EU member states plus Iceland, Liechtenstein, and Norway) and who apply for student visas for postgraduate studies in proliferation-sensitive subjects (e.g., material science, mechanical engineering, and aerospace engineering). However, due to the high number of applications, only applicants from countries with a high WMD-proliferation risk (e.g., Iran and North Korea) are subject to ATAS background checks. Again, China is not treated as a high-risk country.¹⁷ The situation in the Schengen Area, which currently comprises twenty-two of the EU’s twenty-eight member states, is similar. Visa background checks are mostly restricted to citizens of countries that are under WMD-proliferation-related EU or UN sanctions (i.e., Iran and North Korea), while China is not a priority country (Research interviews Berlin and Stockholm 2012).

However, knowledge transfers work in both directions and the cooperative activities of European researchers and engineers in China or with Chinese partners are even more difficult to control, both because of their mostly intangible nature and the lack of intra-EU coordination.

In any case, a rigid implementation of the above-mentioned control measures, if it were even feasible, would go against the EU principles of supporting the free flow of knowledge and cooperating with third-country partners such as China to facilitate the global competitiveness of EU science and technology. It would also go against the European conviction that innovation only happens in an open environment that allows for free exchanges of ideas and knowledge.

The European Perspective: The Economy in the Driver's Seat?

This lack of control mechanisms on dual-use technology transfers to China raises the question of why the EU does not approach the issue in a more “strategic” way, similar to the United States. The answer to this question may lie in two factors that have shaped Europe-China relations for large parts of their history and continue to do so today: namely, the “tyranny of distance” and the “primacy of trade” (Yahuda 2008, 13). In short, this means that (a) the relationship between both sides was (and remains) dominated by economic issues; and (b) that, apart from a century or so starting with the First Opium War (1839–1842), they did not pose a security threat to each other, mainly due to the large geographical distance.

China Not Seen as a Security Threat

As a result of modern technology and transportation methods the tyranny of distance has partially been overcome. Nevertheless, geographical distance still plays an important role when it comes to perceptions of the EU's external security environment. The EU and its member states remain very much focused on security threats originating from its immediate neighborhood, namely, the Middle East, Northern Africa, and, to a certain degree, Russia. By contrast, most European analysts and officials do not see China as a direct military threat. Unlike the United States, which is determined to defend its global leadership role by maintaining a strong military presence and its set of military alliances in the Asia-Pacific, the EU and its member states:

1. Do not have any significant military capabilities in the Asia-Pacific region. Since the return of the former British colony of Hong Kong to China in 1997, the European military presence in the area has basically been reduced to a small number of French troops in the Southern Pacific (New Caledonia).
2. Do not have the necessary long-range power capacity to be a major military player in regions far from home. Only France and the UK maintain significant capacities and even those are called into question by falling defense budgets and general austerity measures.
3. Are not part of a US-style security alliance system with partners in the region. For example, there is no strong “Taiwan Lobby” in Europe and European arms sales to Taiwan have been very limited and low-key.¹⁸

As a result, European policymakers have found it difficult to define any hard security interests vis-à-vis China. The only major public EU policy document that clearly states European security interests in the Asia-Pacific region is the “Guidelines on the EU’s Foreign and Security Policy in East Asia,” first released in 2007 and updated in June 2012. The guidelines identify North Korea’s nuclear and ballistic missile programs, the still unresolved conflict between China and Taiwan, and rising tensions in the South China Sea as “threats to regional security, which have a direct bearing on the interests of the EU.” They call for the development of a regional security architecture and stress the need to further engage China as the region’s key player, while at the same time recognizing “that the credibility of US defense guarantees in the region is essential at present for the region’s stability” (Council of the EU 2012). Some European analysts have also pointed out that the EU should consider the potential impact of Chinese military modernization on its foreign and security interests, for example, with regard to the safety of European trade with Asian partners in the case of a maritime conflict involving China (Duchâtel and Sheldon-Duplaix 2012, 31–32; Stumbaum 2012).

European security interests in the region are therefore primarily of an indirect nature: First, Europeans might be dragged into a potential military conflict between their US allies and China (e.g., over Taiwan or North Korea). And second, any such major armed conflict

between China and the United States would also have catastrophic consequences for the EU economy, which is still struggling to recover from the global financial crisis.

In this context, the EU recognizes the need to work constructively with the United States, as stated in the 2012 guidelines. The US secretary of state, Hillary Clinton, and the EU high representative, Baroness Ashton, issued the first EU-US joint statement on the Asia-Pacific region on the sidelines of the Association of the South-east Asian Nations (ASEAN) Regional Forum in Phnom Penh in July 2012. The statement also mentioned issues of peace and security, including maritime disputes in the South China Sea. These developments have been followed by a debate about potential European contributions to the US rebalancing to Asia. Some US analysts have listed a number of potential European contributions in support of the “pivot,” for example, the redeployment of French and British nuclear-powered attack submarines to the Pacific and the establishment of “a Western squadron on a multinational Indo-Pacific Station” (Holmes 2012).

However, European analysts have quickly put these rather high and maybe overtly enthusiastic expectations back into context. They did not just point to the EU’s limited capabilities and shrinking defense budgets, but also questioned whether such an approach would be in Europe’s own interest in the first place. As one European observer put it, “The EU may have formulated regional and country strategy papers for all parts of the world and global security goals, but in terms of political and military power it is a regional actor concentrating mainly on its neighbourhood” (Wacker 2011, 132). Europe should instead focus on applying its own core areas of strength to the Asia-Pacific region, such as promoting cooperation on nontraditional security challenges and playing the role of a conflict mediator (Keohane 2012, 48–50).

In most likelihood, the “strategic marginalization” (Holslag 2012) of Europe will continue and the EU will be preoccupied with security threats originating in its immediate neighborhood. Moreover, the ongoing eurozone crisis will keep European leaders focused on economic issues, especially in their relationship with China.

Focus on Trade, Investment, and S&T Cooperation

Trade and investment relations remain the dominating pillar of the China-EU relationship. Today, China, the world’s second-largest

economy and biggest exporter, is the EU's second-largest trading partner behind the United States. For China the EU remains the largest trading partner. Despite the global economic crisis, EU exports to China have more than doubled between 2007 and 2012, from roughly 71 to 144 billion euros. At the same time the EU continued to run a sizable trade deficit with China, standing at 146 billion euros (and thus higher than EU exports) in 2012.

Apart from the obvious economic benefits for European industry, trade and investment also constitute the main channel for technology transfers from the EU to China. In 2010, the Chinese Ministry of Commerce (MOFCOM) called the EU China's "largest source of technology imports" (MOFCOM 2010). According to one Chinese source, Europe accounts for almost half of China's technology imports worth US\$134 billion between 1978 and 2010, with Germany, France, the UK, Italy, and the Netherlands representing China's top five technology sources (Li 2011). Technology-intensive goods make up the lion's share of EU exports to China: in 2012 machinery and transportation equipment accounted for 58.5 percent of the total, with chemical products making up 11.7 percent.¹⁹ Given the large amount of machinery exports, it is not surprising that Germany by now accounts for almost half of all EU exports to China. European observers have called this an "almost perfect symbiosis between the Chinese and German economies: China needs technology and Germany needs markets" (Kundnani and Parello-Plesner 2012, 2).

While European companies have invested in China for almost three decades already, recent years have seen the emergence of a new trend: as Beijing has encouraged Chinese companies to step up their "going global" activities, Chinese foreign direct investment (FDI) into the EU has risen rapidly, from less than US\$1 billion in 2008 to more than US\$10 billion in 2011 and 2012, respectively. By comparison, Chinese investment in the United States stood at only US\$6.5 billion in 2012, although this did also represent a record high. Chinese investments in the EU were mostly targeted at the European Big Three—France, the UK, and Germany—with Sweden in fourth place. This shows that Chinese investors are primarily targeting the larger, as well as more stable and technologically developed, economies of the EU. While Chinese FDI in the EU-27 between 2000 and 2011 covered a wide range of industries, almost half of the investment (by value) was concentrated in three sectors: (1) chemicals, plastics, and rubber; (2) utility and sanitary services; and (3) automotive original

equipment manufacturers (OEM) and components (Hanemann and Rosen 2012, 40).

Generally speaking, both European businesses and policymakers usually welcome Chinese FDI in the EU. In times of economic crisis, Chinese investors have invested in struggling European companies (e.g., the acquisition of the German Mittelstand company Putzmeister by China's Sany Heavy Industry), saving numerous jobs in European economies in the process. At the same time, Chinese companies have also invested in greenfield projects that have led to the creation of new jobs. However, there have also been some critical voices. Some European analysts have even warned of a Chinese "scramble for Europe," implying that China was exploiting the EU's current economic troubles to increase its economic and political influence in Europe (Godement and Parello-Plesner 2011, 2). But overall, Chinese FDI into the EU remains on a rather low level: by 2011, China accounted for a mere 1.4 percent of the EU's total inward investment. By comparison, the EU accounted for approximately 20 percent of FDI into China (European Commission 2013).

Two of the major motivations for Chinese investments are European high technology and know-how. A recent study by the EU Chamber of Commerce in China (EUCCC) has found that more than one-third of the Chinese companies included in the survey cite using local intellectual and R&D resources as a motivation for operating in the EU. This makes R&D the third-most important reason for investments in the EU, behind improving access to the European and Chinese markets (EUCCC 2013, 13).

According to an authoritative study by the Rhodium Group, the period from 2000 to 2011 has seen significant Chinese investment in technology-intensive and sometimes also dual-use-sensitive sectors in the EU, for example, in communications equipment and services (100 projects with a value of US\$1.4 billion) and in aerospace, space, and defense (eleven projects, US\$253 million) (Hanemann and Rosen 2012, 41).

The ICT sector has seen a number of greenfield investments in R&D operations, for example, by Huawei and ZTE. By mid-2012, Huawei, a company with alleged links to the PLA, had over 7,300 staff based in Europe, more than 780 of them in R&D. Huawei runs ten R&D centers in the EU, compared to seven in the United States (Huawei USA Web site 2013). Its Chinese competitor ZTE runs five R&D centers across the EU, the same number as in the United States.

In the aerospace sector, Austrian aircraft supplier FACC, a China Aviation Industry Corporation (AVIC) subsidiary since 2009, plans to invest 54 million euros in Ried/Austria, mainly in new R&D facilities (Schneid 2012). The company supplies components for many major aircraft producers (e.g., Airbus, Boeing, and Eurocopter) and engine producers (e.g., Rolls-Royce). It also supplies winglets and spoilers for China's Comac C919 commercial airliner and outer bypass ducts for the Northrop Grumman RQ-4 Global Hawk unmanned aerial vehicle (UAV) surveillance aircraft. Of course, EU aerospace companies also have a long history of investments in China: one notable example is the Airbus Beijing Engineering Centre (ABEC), an R&D center in Beijing opened by Airbus in 2005 as a joint venture with the AVIC. ABEC's tasks include, among others, the design and development of the A350 XWB aircraft. By 2009 the center employed some 200 Chinese engineers (Cliff, Ohlandt, and Yang 2011, 58).

Unlike in the United States, Europeans generally do not see such investments in dual-use-sensitive sectors through a national security lens and national security issues are not a central part of the debate about Chinese FDI. In fact, both EU law and the national law of most member states allow for the screening of foreign investments on national security grounds (Hanemann and Rosen 2012, 71). However, many EU member states remain firm supporters of free trade and vehemently oppose the establishment of an EU-wide vetting system for foreign investments similar to the Committee on Foreign Investment in the United States (CFIUS)—first and foremost Germany, the EU's number one trading nation (Research interview Berlin, 2012). This means that there is also very little chance for greater European (or even transatlantic) coordination. While Europeans are less concerned about national security, there are a number of China-related economic security risks that are increasingly in the spotlight: patent violations, trade-secret theft, trademark violations, and copyright infringements by entities from China (and other countries) continue to cause huge damage to European industries. Recent months have also seen a growing number of media reports about alleged Chinese cyber attacks on European defense conglomerates and security-related government institutions (Reuters 2013). These developments threaten to fuel mutual distrust and might even lead to the erection of additional barriers for cooperation.

Conclusion

The EU and its member states have so far failed to develop a strategic approach toward transfers of European militarily sensitive technologies to China. There are three major reasons for this:

1. The absence of strong security interests: China is generally not regarded as a military threat. The EU and its member states do not have any direct hard security interests in the Asia-Pacific region. Europeans have not followed the United States in its so-called pivot (or rebalancing) to Asia that was announced by the Obama administration in October 2011. The EU and its member states remain very much focused on security threats originating from its immediate neighborhood, namely, the Middle East, Northern Africa, and, to a certain degree, Russia. China's military rise is at most considered to be an indirect threat: First, Europeans might be dragged into a potential military conflict between their US ally and China (e.g., over Taiwan or North Korea). And second, any such major armed conflict between China and the United States would also have catastrophic consequences for the EU economy, which is still struggling to recover from the global financial crisis.

2. A relationship dominated by commercial interests: Economic and trade relations remain the dominating pillar of the China-EU relationship. Overall, the EU has continued to pursue a broad engagement policy vis-à-vis Beijing, underpinned by an ever growing number of summits and dialogues both on the EU and the member-state level. One of the main goals of this policy is to encourage the integration of China in the world economy by bringing it fully into the world trading system and supporting the process of economic and social reform that is continuing in China. This approach is based on Europe's own historical experience that highlights the benefits of economic cooperation and integration for regional and global security. Today, China, the world's second-largest economy and biggest exporter, is the EU's second-largest trading partner behind the United States. For China the EU remains its largest trading partner. At the same time, Chinese investments in the EU are growing at a rapid pace. Some European analysts have termed this "China's scramble for Europe," implying that China is exploiting the EU's current economic troubles to increase its economic and political influence in Europe. Nevertheless, these investments are still on a

very moderate level, especially compared with investment from other countries. In recent years, the global financial crisis and the eurozone crisis have kept European leaders clearly focused on economic issues, both domestically and in its relations with major partners, such as China. However, in the face of rising competition from the Chinese high-tech sector, a growing number of trade disputes, and reports of Chinese economic espionage activities, concerns about economic security have led to calls for increased vigilance on high-tech transfers to China in the media and from some European lawmakers.

3. The lack of a unified EU foreign policy approach and competing national (and other) interests: European foreign policy remains fragmented between the European and the member-state level. The 2009 Treaty of Lisbon and the creation of the European External Action Service (EEAS), basically the EU's common diplomatic corps, were meant to strengthen the EU's Common Foreign and Security Policy (CFSP) and thus ensure greater coordination and consistency in EU policy toward third countries, such as China. Despite some improvements, the EU's China policy (and its foreign policy in general) remains fragmented and determined by the often competing political and economic interests of its member states. This fragmentation is also reflected in the development and implementation of the European export control system and the debate over the EU arms embargo on China, which was introduced as a reaction to China's crackdown against protesters in June 1989. As a result, the odd paradox persists: China remains the EU's only strategic partner under a EU arms embargo.

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Notes

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1. These include annual EU-China Summits, the High-Level Strategic Dialogue, the High-Level Economic and Trade Dialogue, the biannual People-to-People Dialogue, as well as at least fifty-four sectoral dialogues and subdialogues on topics ranging from animal health cooperation to security and defense issues. For an overview of the main elements of the EU-China dialogue architecture, see http://eeas.europa.eu/china/docs/2013_eu-china_dialogues_en.xls (accessed May 22, 2012).

2. The fifteen member states of CHINCOM were Belgium, Canada, Denmark, France, Greece, Western Germany, Italy, Japan, Luxembourg, the Netherlands, Norway, Portugal, Turkey, the United Kingdom, and the United States.

3. The UK and France established diplomatic ties with the PRC in 1950 and 1964, respectively, long before the United States followed in 1979.

4. US arms sales to China peaked at US\$98 million in 1985, out of a total of US\$188 million between 1984 and 1996. Figures are SIPRI Trend Indicator Values (TIVs) at constant (1990) prices. SIPRI Arms Transfers Database. www.sipri.org/databases/armstransfers (accessed May 27, 2013).

5. These measures were (1) raising the issue of human rights in China in the appropriate international fora: asking for the admittance of independent observers to attend the trials and to visit the prisons; (2) interruption by the member states of the community of military cooperation and an embargo on trade in arms with China; (3) suspension of bilateral ministerial and high-level contacts; (4) postponement by the community and its member states of new cooperation projects; (5) reduction of programs of cultural, scientific, and technical cooperation to only those activities that might maintain a meaning in the present circumstances; (6) prolongation by the member states of visas to Chinese students who wish it; (7) the European Council advocacy of the postponement of the examination of new requests for credit insurance and the postponement of the examination of new credits of the World Bank. European Council, Council of Ministers Declaration on China, Madrid, June 26–27, 1989, www.sipri.org/databases/embargoes/eu_arms_embargoes/china/eu-council-of-minister-declaration-on-china (accessed May 28, 2013).

6. For details on the French and British interpretations see www.sipri.org/databases/embargoes/eu_arms_embargoes/china (accessed May 28, 2013).

7. The Anti-Secession Law (*Fan fenlie guojia fa*) formalized the long-standing policy of the PRC to use force against Taiwan in the event of a formal declaration of Taiwanese independence. Article 8 states, “In the event that the ‘Taiwan independence’ secessionist forces should act under any name or by any means to cause the fact of Taiwan’s secession from China, or that major incidents entailing Taiwan’s secession from China should occur, or that possibilities for a peaceful reunification should be completely exhausted, the state shall employ non-peaceful means and other necessary measures to protect China’s sovereignty and territorial integrity.” For the full text see http://english.peopledaily.com.cn/200503/14/eng20050314_176746.html (accessed May 28, 2013).

8. For example, the current German government has listed two conditions for lifting the embargo: (1) a sustainable easing of tensions in the Taiwan Strait, including China giving up its threat of force against Taiwan; and (2) further improvement of China's human rights record, including the release of persons detained during the 1989 Tiananmen incident (Bundestag 2012), <http://dipbt.bundestag.de/dip21/btd/17/085/1708561.pdf> (accessed May 28, 2013).

9. For example, by France in 2008, Spain in 2010, and by the EU's high representative for foreign affairs and security policy, Catherine Ashton, also in 2010.

10. For example, in its written answer to an inquiry by Green Party parliamentarians, the German government replied, "The Federal Government is not aware of any technology transfers from Germany to the Chinese defense industry" (Bundestag 2012).

11. Organized by the German BAFA export control authority. See www.eu-outreach.info/eu_outreach/ltp/partner_countries/asia_china/china/index.html (accessed May 28, 2013).

12. The ten categories are (0) nuclear materials, facilities, and equipment; (1) special materials and related equipment; (2) materials processing; (3) electronics; (4) computers; (5) telecommunications and "information security"; (6) sensors and lasers; (7) navigation and avionics; (8) marine; and (9) aerospace and propulsion.

13. Namely, the Außenwirtschaftsgesetz (AWG, Foreign Trade and Investment Act) and the Außenwirtschaftsverordnung (AWV, Foreign Trade and Investment Regulation).

14. Research interviews, Beijing and Berlin 2012.

15. For example, the Swedish domestic security service (Säkerhetspolisen or Säpo) has in the past held meetings with university officials to sensitize them to questions of technology transfers, proliferation, and export controls (research interview, Stockholm 2012).

16. According to French analysts and officials, the introduction of the law is the result of several espionage incidents involving foreign (including Chinese) nationals (research interviews, Paris 2013).

17. An additional reason is the lack of resources on the British side combined with the huge number of Chinese students and guest researchers that are coming to the UK. This makes it impossible to conduct thorough background checks for even a fraction of visa applications (Research interview Stockholm 2012).

18. Arms sales by EU member states, namely, France and Germany, only accounted for US\$192 million, less than 6 percent of Taiwanese arms imports in the same period. This is only a fraction of the approximately US\$1.6 billion of European arms transfers to China that took place in the same decade. Recent European arms sales include six French Thales ATAS sonars for the Taiwanese Navy's Cheng Kung-class frigates, delivered between 1995 and 2004, and around forty-two German MTU-4000 diesel engines for the Taiwanese Navy's new stealthy 170-ton Kuang Hua VI (KH-

6) guided-missile patrol boats, delivered between 2009 and 2010 (Bräuner 2012). <http://thediplomat.com/new-leaders-forum/2012/03/20/how-europe-shies-from-taiwan/> (accessed May 29, 2013).

19. Standard international trade classification (SITC) categories 7 (includes machine tools, automobiles, and IT and telecommunication equipment) and 5 (includes plastics and chemical products). Eurostat, http://trade.ec.europa.eu/doclib/docs/2006/september/tradoc_113366.pdf (accessed May 29, 2013).

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