

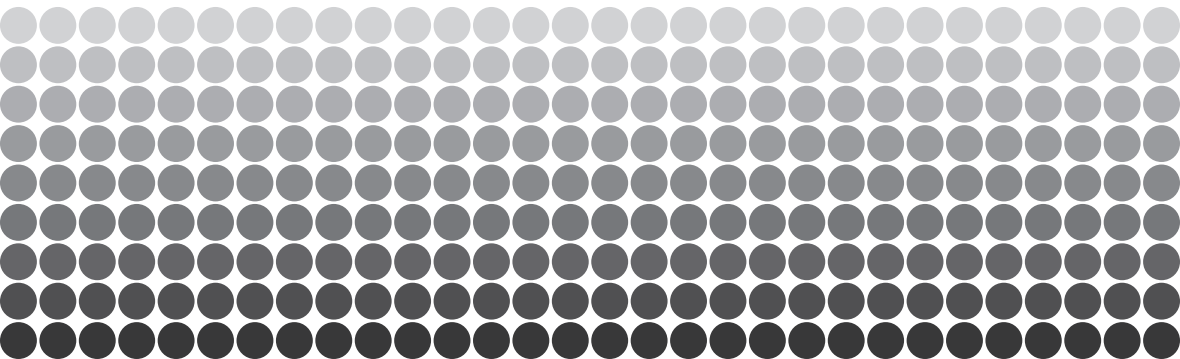
SIPRI YEARBOOK 2013

Armaments, Disarmament and International Security

Introduction

An economist's perspective on security,
conflict and peace research

TILMAN BRÜCK



Introduction

An economist's perspective on security, conflict and peace research

TILMAN BRÜCK

Contents

I. The drivers of insecurity, conflict and fragility	4
II. Trends in security, conflict and peace	6
III. The consequences of violent conflict and insecurity	8
IV. Interventions and institutions for security and peace	10
V. Looking beyond 2015: developing new data and a global system of security accounts	12

This is an offprint from

SIPRI Yearbook 2013: Armaments, Disarmament and International Security

Oxford University Press, 2013, ISBN 978-0-19-967843-3, hardback, xxii+574 pp., £100/\$185

The SIPRI Yearbook is published and distributed in print and online by Oxford University Press—more information is available at <<http://www.sipriyearbook.org>>

OXFORD
UNIVERSITY PRESS

www.sipriyearbook.org

Introduction

An economist's perspective on security, conflict and peace research

TILMAN BRÜCK

The use of physical force is, unfortunately, one of the key elements in the repertoire of human behaviour. Given the persistence and prominence of the intentional use of force, or violence, for human interactions, group behaviour and state actions, it is surprising how limited the degree of understanding of this topic still is. Many of the policies dealing with potential or actual group-based violence therefore remain imperfect. For example, none of the Millennium Development Goals (MDGs), which have shaped the development aid discourse since 2000, refers to peace or security.¹ This silence on security, conflict and peace in the global development discourse was avoidable and is overdue to be remedied, especially as no conflict-affected country has yet achieved any MDG.²

The SIPRI Yearbook aims to remedy these knowledge gaps: it provides information on and endeavours to enhance understanding of security, conflict and peace, thereby enabling better policies to be made in the pursuit of a more peaceful, secure and equitable world. In this spirit, this essay identifies and discusses some research areas where a better understanding of violent conflict may pay dividends for practitioners. Violence creates dependencies, or cycles of violence, from which it is often difficult to escape. Stopping such cycles of violence requires peace- and security-enhancing institutions. But building such institutions in turn requires tightly aligned and closely coordinated policies.

Economics only started to acknowledge that violence may be part of human behaviour and interactions after the end of the cold war.³ Related

¹ United Nations, General Assembly, 'United Nations Millennium Declaration', Resolution 55/2, 8 Sep. 2000.

² *World Development Report 2011: Conflict, Security, and Development* (World Bank: Washington, DC, 2011), p. 5.

³ Stewart, F. and FitzGerald, V. (eds), *War and Underdevelopment*, vol. 1, *The Economic and Social Consequences of Conflict* (Oxford University Press: Oxford, 2000); Addison, T. and Brück, T., *Making Peace Work: The Challenges of Social and Economic Reconstruction* (Palgrave Macmillan: Basingstoke, 2009); *World Development Report 2011* (note 2); Kaldor, M., *New and Old Wars: Organised Violence in a Global Era*, 3rd edn (Polity Press: Cambridge, 2012); and Justino, P., Brück, T. and Verwimp, P. (eds), *A Micro-Level Perspective on the Dynamics of Conflict, Violence and Development* (Oxford University Press: Oxford, forthcoming).

research fields in other social sciences include the psychology of aggressive and violent behaviour, the sociology of protest movements that can become violent, and political science and international relations, where the use of force between states has long been studied. In economics, in contrast, the only previous analyses of violence may have been in game theory modelling of the cold war and in the economics of crime.

Humans regularly apply force or coercion in daily activity, with or without instruments or tools. Some such uses of force are not morally reprehensible. Other uses of violence are illegal of course, for example in the cases of murder, robbery or domestic violence. In some cases, using force against other people in a purposeful way and doing so as part of a group or against a group is not illegal or may be made legal by *ex post facto* legislation (e.g. after a war or coup d'état). In yet other cases, even planning violent action for political means may be illegal (e.g. in forming a terrorist group). There are clearly multiple and overlapping forms of violent action whose legality is contested and which therefore trigger a substantial institutional response.

A major responsibility of democratic government is to define and control its monopoly on violence in order to prevent the use of violence by non-state actors. Any form of weakened governance leading to the emergence of competing manifestations of violence, or of fragmenting violence, represents a degree of fragility. In such a scenario, it is likely that multiple forms of violence will be expressed by and against different (groups of) actors with various motives spanning dimensions such as politics, religion, geography and gender. Examples of forms of competing violence include organized crime such as in Mexico, secessionist movements such as in Aceh, Indonesia, or terrorist organizations such as al-Qaeda. It is a government's inability or unwillingness to maintain its monopoly of violence in a legitimate way that characterizes a fragile country or territory. In the extreme, the entire state becomes ineffective, dysfunctional or non-existent (and hence failed), such as in Afghanistan, Mali or Somalia.

Peace and security require not just the absence of group-based violence but the presence of a legitimate state defining and enforcing its citizens' property rights and thereby regulating the expression of violence. Sustained and just peace is thus linked to both the absence of non-state violence and the existence of effective and legitimate governance of state violence—and both dimensions can show degrees of perfection. Furthermore, both dimensions are inherently measurable, either quantitatively or through iterative qualitative analyses using appropriate analytical frameworks.

Social science has identified at least four significant fields that exhibit, to varying degrees, knowledge gaps concerning the strategic use of force by groups in areas having weakened state institutions, including in undemo-

cratic states. In declining order of knowledge and understanding, these four fields are the following.

1. *The drivers of insecurity, conflict and fragility.* While much is known regarding the drivers of violence, conflict and institutional failure (or poor governance and hence fragility), important gaps remain.

2. *Trends in security, conflict and peace.* While it has been relatively straightforward to list the states engaged in armed conflict in a given year, understanding the nature of a specific conflict is much more challenging.

3. *The consequences of violent conflict and insecurity.* There is little understanding of how violence has affected socio-economic and political outcomes. This is especially true at the individual, household and group levels, where outcomes are usually adverse ('costs'), although, of course, some people, groups or countries benefit from violent conflict.

4. *Interventions and institutions for security and peace.* No comprehensive understanding has yet been developed of the options for intervention in conflict settings, or for peacebuilding and reconstruction more generally.

Taken as a whole, these gaps imply the absence of a comprehensive system of security data tying together the different strands of peace research, which may be the most fundamental and systematic knowledge gap presented thus far. This lack of understanding greatly complicates peacebuilding and conflict prevention. It makes interventions in conflicts much more ideological (and therefore perceived as self-interested), much less an issue of actual common interests and ultimately less successful—leading to self-fulfilling prophecies or 'narratives' of failed interventions, seemingly demonstrating the limitations of such actions. It even reduces the opportunities for systematic and meaningful post-intervention assessments in all these areas. Poorly informed policy decisions rarely yield good outcomes. While the reverse (i.e. that well-informed policy debates yield enlightened political outcomes) may not be correct, it may be worth taking the chances to provide the evidence before decisions of life and death are made.

Each of the four gaps is considered in sections I–IV, which outline the nature of what is not known, what has been done recently and what remains to be studied. Each section identifies the ways in which advancing knowledge in these areas can help inform, evaluate and guide policy discussions and policymaking. In each case, the ways in which recent research at SIPRI has continued and will continue to shape the debate on these important issues in peace research is described. Naturally, there are other deserving research gaps to be addressed in security, conflict and peace research. This essay addresses a selection of these; future editions of the SIPRI Yearbook may identify further gaps.

I. The drivers of insecurity, conflict and fragility

Military spending, arms production and arms transfers are among the drivers of insecurity, conflict and fragility.

Government spending on the military is a necessary prerequisite for traditional armed conflict. Hence, the monitoring of military spending over time and across countries (as is done at SIPRI) permits the dynamic and comparative analysis of, among other things, arms races or of a build-up of military potential—thus providing a useful indicator of either a response to actual conflict or of incipient conflict.⁴ However, new military technologies are constantly emerging, wars can be waged against non-state targets such as religiously inspired terrorist groups or in the pursuit of regime change in potentially fragile countries, while low-technology, localized and self-perpetuating intrastate wars continue in such places as Central Africa. Thus, counting spending on traditional armed forces may not be sufficient to track possible future insecurity. Instead, understanding security spending more broadly or spending on governance and the rule of law as well as understanding the values of the various components of traditional military spending may be needed to understand military capacities and future conflicts in the 21st century.⁵

It is not just military spending but also the production and trade of weapons (both licit and illicit) that can drive insecurity.⁶ In the field of arms production, there are at least four main research challenges ahead. First is the study of the implications of a multipolar economic and security world for the global distribution of security-related goods and services. Specifically, it is hard to find information about arms producers in countries—such as China—that are increasingly becoming significant arms exporters but which are not subject to market scrutiny comparable to that of producers in Western countries. Second, the trend towards more military services (e.g. for maintaining complex weapon systems) changes the nature of procurement and the business of the security companies.⁷ It is not just the provision of hardware that is profitable but also participation in ongoing conflicts. For example, the provision of information and communication technology (ICT) services and of privately contracted armed security personnel—as was pioneered by the United States and practised in the wars in Afghanistan and Iraq—changes the incentive structure that private sector firms face. This represents a dramatic shift in the involvement of the private sector in the provision (or undermining) of security, which deserves

⁴ See chapter 3 on military expenditure in this volume; and the SIPRI Military Expenditure Database, <<http://www.sipri.org/databases/milex/>>.

⁵ E.g. on security spending in Central America see chapter 3, section IV, in this volume.

⁶ See chapter 4 on arms production and military services and chapter 5 on international arms transfers in this volume.

⁷ Jackson, S. T., 'The military services industry', *SIPRI Yearbook 2012*.

further research. Third, the dominance of some large and well-known companies obscures the many small firms, especially in emerging fields of military technology, that may nevertheless be important. Thus, to the extent that military technology is increasingly network based and that military services in general are gaining in importance, observing the small producers and suppliers may be as relevant as watching the big companies.⁸ Fourth, and of increasing importance, is that technological transformations change what can be considered arms. Similar to the development of chemical and later nuclear weapons, the recent development of cyberwarfare capabilities poses a new security challenge derived from technological change.

To track the flow of arms between states, SIPRI measures official and unofficial international arms transfers.⁹ Naturally, given the opacity of how even official arms exports are handled, efforts to improve transparency are likely to be incomplete and inconsistent. For example, in some cases the value of the deal, the precise equipment shipped or the other conditionalities (or bribes) included in the agreements will be unknown. However, SIPRI provides comparable data of the volume, not just the financial value, of international arms transfers. While this causes much scope for disagreement and criticism, it is arguably the best method in a challenging research area. Areas for further research in the field of international arms transfers include measuring the volume of arms procured locally (rather than imported) and measuring equipment longevity.¹⁰

Another important driver of conflict and fragility is the trafficking of weapons, people, money or conflict goods and resources (e.g. drugs, timber, diamonds and rare metals), especially when shipped by sea or air.¹¹ SIPRI tracks flows of goods that are likely to undermine security and good governance.¹² For example, by identifying particular trafficking patterns, SIPRI has had success in detecting which ships are likely to repeatedly engage in illicit transfers. It can be shown, for example, that a majority of all ships identified as involved in destabilizing or narcotics-related transfers via sea in the period 1991–2011 were owned by companies in member

⁸ On the example of the cybersecurity industry see chapter 4, section II, in this volume.

⁹ SIPRI Arms Transfers Database, <<http://www.sipri.org/databases/armstransfers/>>.

¹⁰ SIPRI tracks the status of nuclear and chemical weapons holdings and destruction activity, as well as strategic trade control measures to ensure that dual-use material, technology and expertise is not misused for chemical, biological or nuclear weapon activities. See chapter 6 on world nuclear forces, chapter 8 on threats from chemical and biological materials, and chapter 10 on dual-use and arms trade controls in this volume.

¹¹ On efforts to control financial flows see chapter 10, section III, in this volume; and Bauer, S., Dunne, A. and Mičić, I., 'Strategic trade controls: countering the proliferation of weapons of mass destruction', *SIPRI Yearbook 2011*, pp. 441–43.

¹² Griffiths, H. and Bromley, M., *Air Transport and Destabilizing Commodity Flows*, SIPRI Policy Paper no. 24 (SIPRI: Stockholm, May 2009); and Griffiths, H. and Jenks, M., *Maritime Transport and Destabilizing Commodity Flows*, SIPRI Policy Paper no. 32 (SIPRI: Stockholm, Jan. 2012).

states of the Organisation for Economic Co-operation and Development (OECD).¹³ This raises critical implications for policies in developed countries about their contribution (even if implicit) in creating further fragility.

II. Trends in security, conflict and peace

An important trend in peace research has been the drilling down into the details of conflict dynamics below the national level. This has been achieved partly through the collection of conflict event data by first tracking events—such as shootings by one side or the other in a war—and then categorizing them and recording their exact date and location (i.e. time stamping and geocoding them). The resulting data sets—such as the Uppsala Conflict Data Program (UCDP) Conflict Encyclopedia and the Armed Conflict Location and Event Dataset (ACLED)—usually focus on violent events and usually use news reports in local or international media, with all the biases that this may entail.¹⁴

Two similar, but much less common, sources of related event data are truth and reconciliation commissions and digital technologies such as text messages or social media.¹⁵ In many ways, each of these approaches risks systematically omitting certain types of event. For example, it could be that in areas with no mobile phone coverage armed groups feel less constrained from committing atrocities. Hence, a challenge is to validate the quality of the event databases generated (e.g. by combining multiple data-collection methods into a single meta-database).

Furthermore, conflict event databases have used restrictive definitions of what constitutes a conflict event, often focusing on violent events between people. Thus, it may instead be useful to combine traditional conflict event data sets with events related to interventions such as sanctions or broader drivers of conflict such as arms transfers. This would open the door to the study of conflict dynamics in a more detailed and nuanced way, learning about how, for example, weapon deliveries to the rebels in Syria or the

¹³ Griffiths and Jenks (note 12), p. 20.

¹⁴ On UCDP data on armed conflict and the data-collection and methodology, see chapter 1, section III, in this volume.

¹⁵ On the use of data from the truth and reconciliation commission in Peru see Fielding, D. and Shortland, A., 'What explains changes in the level of abuse against civilians during the Peruvian civil war?', University of Otago Economics Discussion Papers no. 1003, May 2010, <<http://www.business.otago.ac.nz/econ/research/discussionpapers/>>; and Cibelli, K., Hoover, A. and Krüger, J., 'Descriptive statistics from statements to the Liberian Truth and Reconciliation Commission', Benetech Human Rights Program for the Truth and Reconciliation Commission of Liberia, June 2009, <<http://hrdag.org/publications/>>. On the use of modern technologies in monitoring violence see Matheson, D. and Allan, S., *Digital War Reporting* (Polity Press: Cambridge, 2009).

displacement of people in such a war have an impact on the conflict dynamics.¹⁶

Conflict event data can help to track specific examples of violent conflict but it cannot actually help to measure how secure societies are. Societal security can be defined to encompass a balance between low incidents and threats of violence, appropriate protection for such a level of threat and a subjective perception of security (which may be independent of the actual levels of violence and protection thereof).¹⁷ Many aspects of individual lives, in both the economic and the social domains, are already quantified in various ways. Inflation, exchange and growth rates are recorded, as well as poverty, literacy and birth rates, and infinite data on the weather. However, there has been no attempt to create a single measure expressing how secure, say, Somalia, Sri Lanka or Sweden is. Of course, the number of people killed in wars in each country and how much they spend on their militaries are generally known in broad terms. However, this is distinct from knowing how secure these countries are. If the relative degree of security between states were known, much could be learned about trends in security and possibly even about causal relationships—and security policies could hence be improved further.

What is needed, then, is an indicator of security that varies across countries and years at least, if not localities and months or even days.¹⁸ Such a security indicator must differentiate between the underlying intentional threats or risks from human sources (such as terrorist groups, combatants or organized crime) as well as the protective and preventive steps taken by both governments and private sector actors such as firms and individuals. If there are high levels of threats, then there must also be high levels of protection. If, however, there is a low level of threat, then there can be correspondingly low levels of protection. It follows that security is neither a minimum of threat nor a maximum of protection, but the right balance between the two. This also means that there can be an overprotection of a country, which would be economically wasteful and could even be counter-productive.

The question arises of whether Europe, for example, suffers from such a degree of post-September 2001 overprotection from terrorism, while other, more lethal and more preventable risks are neglected by public policy.¹⁹

¹⁶ On arms transfers to Syria see chapter 5, section III, in this volume. On people displaced by conflict see Cohen, R. and Deng, F. M., 'Mass displacement caused by conflicts and one-sided violence: national and international responses', *SIPRI Yearbook 2009*.

¹⁷ Brück, T., de Groot, O. J. and Ferguson, N., 'Measuring security', eds R. Caruso and A. Locatelli, *Understanding Terrorism: A Socio-economic Perspective* (Emerald Publishing: Bingley, forthcoming 2013).

¹⁸ Brück et al. (note 17).

¹⁹ On such risks see e.g. Sköns, E., 'Analysing risks to human lives', *SIPRI Yearbook 2007*, pp. 252–56.

Such a situation could arise if perceptions of insecurity are out of balance. In other words, a societal optimum is unlikely to be reached where only threat and protection are in balance; perceptions of both factors also need to be aligned. A country with few or no incidents of terrorist violence can experience disproportionately high levels of fear of terrorism.²⁰ Obviously, fighting terrorism in a country that has low or no threat of terrorism may actually increase fear. Hence, an important public policy in regard to terrorism may be the management of fears and the education of the public about risks.

III. The consequences of violent conflict and insecurity

Group-based violent conflict can be viewed as a systematic challenge to a state's right and ability to define and enforce its citizens' property rights. Violent conflict aims to re-order a country's institutions, where 'institution' is broadly defined to include both formal structures and informal rules and norms. For example, rebels in the Basque country in Spain started a war of secession to dispute the right of the Spanish Government to enforce its sovereignty. Such a dispute may be about languages used in schools or about how the police are organized, but it may also be about the identity of a region and its inhabitants—that is, about informal traditions, which may have no direct legal or economic implications.²¹ Some agents of violent conflict, the 'human drivers of insecurity', such as terrorist groups, may wish to weaken central state institutions directly. Others, such as organized criminal groups, which need a docile state that tolerates or at least ineffectively pursues the criminals, may wish to weaken the central state as a means to an end.²²

Depending on its context, group-based violent conflict can be interpreted as an instance of a weakened institutional framework, in which people need to make decisions without the full recourse to the justice system to enforce contracts or to social networks for the informal enforcements of norms and agreements. In the extreme, such violence may lead to a complete breakdown of institutions and hence state failure. Under such circumstances, people will have to cope on their own, perhaps relying on violence or impromptu, ad hoc agreements and alliances.

The view of conflict offered here matters because it is not the occurrence of violence itself (e.g. deaths from war actions) that drives the effects of war but the changed institutional framework. There may of course be direct

²⁰ See e.g. Brück, T. and Müller, C., 'Comparing the determinants of concern about terrorism and crime', *Global Crime*, vol. 11, no. 1 (2010).

²¹ Justino, P., Brück, T. and Verwimp, P., 'Micro-level dynamics of conflict, violence and development: a new analytical framework', eds Justino et al. (note 3).

²² See e.g. Stepanova, E., 'Armed conflict, crime and criminal violence', *SIPRI Yearbook 2010*.

effects of violence, say on the witnesses of atrocities or on family members of those killed in war. But the indirect effects of conflict on the economy and society through the weakened institutions may have different and larger effects than the direct violence does.

A recent strand of research has studied the effects of violent conflict at the micro level.²³ For almost 10 years the Households in Conflict Network has provided a platform for this type of research. Its 140 or so working papers demonstrate the progress made and the gaps that remain. The research is starting to produce repeated and robust evidence on the negative effects of war on child health, for example, and on the destructive effects of group-based violence on asset endowments. It is also starting to pioneer ways to improve the methodologies available for measuring conflict in household surveys.²⁴ The specific challenge is to measure the conflict experience of each individual and to understand how people objectively and subjectively experience destruction, dislocation and despair. Human experience is likely to vary widely even within the same locality or household depending on gender, age, and political, economic or social status. Most strikingly, no data has been collected on individual perceptions of peace across time and space, which would seem a fruitful avenue of research and policymaking. The role of the private sector in building peaceful societies is also woefully under-researched.²⁵ There is therefore a lack of suitable data sets and no consensus is emerging on how violent conflict shapes livelihoods, migration or poverty.

Finally, how micro- and macro-level processes in a conflict interact is not well understood either. This suggests that rather than placing all financial resources at the macro or the micro level, an attempt should be made to build models that can bridge this dichotomy—or at least develop narratives that can account for multiple levels. Interestingly, there are also significant knowledge gaps in macro-level research on conflict, despite the fact that this is where the literature first took off after the end of the cold war. For example, there is still little research on estimating the total macro-economic costs of conflict, a number which, if known, would presumably provide a powerful incentive for policymakers to reduce the incidence of violent conflict in the world.²⁶

²³ eds Justino et al. (note 3).

²⁴ Brück, T., Justino, P., Verwimp P. and Avdeenko, A., 'Identifying conflict and violence in micro-level surveys', Households in Conflict Network (HICN) Working Paper no. 79, July 2010, <<http://www.hicn.org/>>.

²⁵ Brück, T., Naudé, W. and Verwimp, P., 'Business under fire: entrepreneurship and violent conflict in developing countries', *Journal of Conflict Resolution*, vol. 57, no. 1 (Feb. 2013); and Naudé, W., Brück, T. and Verwimp, P., 'Business and the barrel of a gun: understanding entrepreneurship and violent conflict in developing countries', UNU-WIDER Policy Brief no. 4, 2013, <<http://www.wider.unu.edu/publications/policy-briefs/>>.

²⁶ On the limited example of the economic cost of conducting 2 wars see Perlo-Freeman, S. and Solmirano, C., 'The economic cost of the Afghanistan and Iraq wars', *SIPRI Yearbook 2012*; and

IV. Interventions and institutions for security and peace

The final area for review is to consider what is known about interventions to overcome conflict and to build (or keep) peace and what roles institutions can play in this. This edition of the SIPRI Yearbook offers a wealth of evidence on efforts to build and implement international agreements to curtail stocks, use or trade of weapons—major conventional arms, small arms and light weapons, and nuclear, biological and chemical weapons.²⁷ While limited progress on the control of the production and use of certain types of arms have been made in recent years (especially concerning anti-personnel mines), aligning the interests of producing and using states for the tighter legally binding regulation of other convention weapons (such as mines other than anti-personnel mines or cluster munitions) has proved quite elusive, with probably significant though largely undocumented humanitarian costs.²⁸ Other challenges in humanitarian arms control, especially applicable to Africa, are that effective, functioning states are needed to implement international conventions when they are finally agreed, in part to control borders and prevent the circumvention of established rules by transnational armed groups.²⁹ Effective humanitarian arms control therefore needs effective states, not just more agreements on paper.

While it seems that the choice of the international community has been to either focus on regional multilateral (e.g. the North Atlantic Treaty Organization) or bilateral security arrangements (e.g. those between Russia and the USA) or to negotiate the lowest common denominator in genuine international agreements (e.g. in negotiations on an arms trade treaty), there are also encouraging efforts for comprehensive multilateral arms control agreements.³⁰ The 1972 Biological and Toxin Weapons Convention and the 1993 Chemical Weapons Convention are total disarmament treaties and the 1968 Non-Proliferation Treaty prohibits any spread of nuclear weapons and requires good faith disarmament efforts.³¹ Not every state has joined these treaties and not every party complies with them, but the record of participation and compliance is generally good—or at least much better than in most treaties of a comparable nature.

At the same time, 2012 saw the systematic failure of the international community to prevent the emergence of a large-scale intrastate war in

Brück, T., de Groot, O. J. and Schneider, F. 'The economic costs of the German participation in the Afghanistan war', *Journal of Peace Research*, vol. 48, no. 6 (Nov. 2011).

²⁷ See chapters 6 and 7 on nuclear arms and arms control, chapter 8 on threats from chemical and biological materials, chapter 9 on conventional arms control, chapter 10 on arms trade controls, annex A on arms control agreements, and annex B on security cooperation bodies in this volume.

²⁸ See chapter 9, section I, on humanitarian arms control in this volume.

²⁹ On the case of small arms control in Africa see chapter 9, section II, in this volume.

³⁰ On the negotiation of an arms trade treaty see chapter 10, section I, in this volume.

³¹ On these 3 treaties see chapters 7 and 8 and annex A in this volume.

Syria, mostly as a result of the inadequacies of the existing legal and institutional framework for conflict management.³² This is not to say that international policy coordination in other policy fields is necessarily better (areas like the management of macroeconomic imbalances or climate change spring to mind) but is instead to argue that the shortcomings of the current international security order have become particularly acute and costly when the issue of intrastate war is at stake. Below that threshold of violence, it is often accepted—however deplorable from a moral point of view this may be—that states are de facto at liberty to oppress their own people, as the case of North Korea illustrates. Far above that threshold, states must not be permitted to become international security risks, as Libya under Muammar Gaddafi and Iraq under Saddam Hussein were at times perceived to be. However, the international community is uncomfortably frozen when dealing with the warlike oppression of domestic political discontent, if only due to the institutional legacies of World War II such as the United Nations Security Council vetoes.³³

It seems that a variety of tools for interventions have risen and fallen in popularity over time. Imposing sanctions, for example, is a signature intervention of the international community to express diplomatic discontent, while humanitarian assistance and peace operations are often used to demonstrate activities to domestic audiences. But these policy instruments appear increasingly to be applied in a reactive fashion, with European Union sanctions against Syria, for example, being repeatedly a response to news of atrocities rather than preventive measures of diplomacy.³⁴

While progress is being made in mapping some interventions, there is a need to strengthen the knowledge base on what is really known about the effectiveness of these interventions and their impacts.³⁵ In doing so, there are interesting opportunities for combining databases on conflict dynamics, illicit shipments or peace operations to name some examples. How do sanctions have an impact on conflict dynamics? How do peace operations or illicit arms transfers change security? How do peace operations affect private sector reconstruction? These are large questions that are often hard to study empirically due to the lack of good data, to the practical and ethical

³² On the conflict in Syria see chapter 1, section I, chapter 2, section II, chapter 5, section III, chapter 8, section III, and chapter 10, section II, in this volume. On broader developments in conflict management see chapter 2 in this volume.

³³ See e.g. Evans, G., 'Responding to atrocities: the new geopolitics of intervention', *SIPRI Yearbook 2012*.

³⁴ On developments in arms embargoes and other sanctions see chapter 10, sections II and III, in this volume. On developments in peace operations see chapter 2 in this volume.

³⁵ E.g. Seybolt, T. B., SIPRI, *Humanitarian Military Intervention: The Conditions for Success and Failure* (Oxford University Press: Oxford, 2007); and Wiharta, S. et al., *The Effectiveness of Foreign Military Assets in Natural Disaster Response* (SIPRI: Stockholm, 2008); and Fruchart, D. et al., *United Nations Arms Embargoes: Their Impact on Arms Flows and Target Behaviour* (SIPRI/Uppsala University: Stockholm/Uppsala, 2007).

challenges of fieldwork, and to difficulty of finding funds to support this type of research.

On numerous occasions, the research community has documented how interventions succeeded or failed after the event.³⁶ However, there is still a gap in providing respected, reliable advice on how to intervene successfully before, during and after violent conflict to the benefit of people and with a view to strengthening peaceful institutions. In other words, there is no conventional wisdom based on scientific evidence on how to make peace. Compared to the medical sciences, peace research still has a long way to go before the knowledge base will be sufficiently strong to make truly evidence-based policies in the fields of security, conflict and peace.

One tool to help learn from past experience is to design randomized control trials, just like in the medical sciences, in the context of interventions for peace and security or merely in standard development interventions (like strengthening education or employment) in conflict-affected or fragile environments.³⁷ While policymakers wishing to design an anti-poverty programme in a peaceful developing country have an abundance of empirical evidence and broad generalizations on which to build their design, in the fields of interventions and the design of institutions for peace this is not true at all—and it may be 10 or 20 years before that level of insight is reached. It will literally require hundreds of studies in dozens of settings before it can be said with confidence how to promote lasting peace. Hence, much hard work remains for researchers in this field, which is sobering and encouraging at the same time.

It would also help to have the numerical models referred to in section III above to facilitate estimating the costs and benefits of various types of intervention—this type of numerical policy modelling is common in other policy fields but is rare in security and peace research. Combining the various data sources that are available or that need to be constructed to undertake informative and useful policy simulations may be one way forward to guide decision makers.

V. Looking beyond 2015: developing new data and a global system of security accounts

The above discussion of selected recent trends in security, conflict and peace research assumes throughout that some aspects of these topics can be measured in a meaningful way (i.e. policy and operationally relevant). If so many other issues in an individual's life or in society can be measured, it should be possible to develop metrics for peace and security, at both the

³⁶ E.g. Seybolt (note 35).

³⁷ Bozzoli, C., Brück, T. and Wald, N., 'Evaluating programmes in conflict-affected areas', eds Justino et al. (note 3).

individual and the aggregate, national levels. One such example would enumerate the experience of conflict at the individual level, as argued above.³⁸ Another such example at the national level is the pioneering Global Peace Index.³⁹ However, neither measuring perceptions of insecurity, counting the war dead, tallying incidents of weapon smuggling, developing proxies for peace nor estimating a security indicator is good enough in itself. Despite these and many other developments referenced in the SIPRI Yearbook over the years, at least two important challenges remain.

The first challenge is to define the remaining data needs to advance the study of security, conflict and peace. Compared to many other scientific disciplines, the advances in data and knowledge in this field are much slower and less supported by national or international research infrastructures. Just as genome sequencing has dramatically altered knowledge about life and supports advances in medical treatments, generating more powerful data on peace and security would induce advances in knowledge and decision making. As the future of the Millennium Development Goals for 2015 are being debated, the time is right for researchers, decision makers and donors to come together and to decide on which metrics can help reduce fragility and conflict in the future.

The second challenge will be to develop a 'global system of security accounts', which brings together in a consistent framework the many variables measuring flows of security and peace. In economics, having a system of national accounts helps to ask and answer the right research questions and supports policymaking as there is an understanding of how the different parts of the economy may move in relation to each other. In the field of international peace and security, a similar overarching 'global system of security accounts' is currently lacking, which weakens analysis and policymaking alike. The SIPRI Yearbook has for almost five decades provided a narrative on global security developments, building on SIPRI's unique ability to gather, collate and interpret relevant trends. The time may be right to ask how this narrative can be formalized to further develop knowledge on and policies for security and peace.

³⁸ Brück et al. (note 24).

³⁹ See e.g. Schippa, C. and Morgan, T., 'The Global Peace Index 2012', *SIPRI Yearbook 2012*.