THE RUSI JOURNAL

THE DESIGN AND IMPACT OF WESTERN ECONOMIC SANCTIONS AGAINST RUSSIA

EDWARD HUNTER CHRISTIE

The economic sanctions imposed by the West against Russia in 2014, following the latter's aggression in Ukraine, were deliberately limited but nevertheless significant, their impact distinguishable from that of the fall in oil prices that occurred in late 2014. Edward Hunter Christie argues that these sanctions, in combination with credible threats of further sanctions, appear to have had an effect in limiting Russian aggression in Ukraine, even though they have not led to a reversal of facts on the ground. This article also explores the possibility that, in the absence of other coercive components to underpin diplomatic efforts, the earlier application of more robust economic sanctions might have had stronger effects on Russia's behaviour.

In response to Russia's aggressive actions against the sovereignty and territorial integrity of Ukraine, Western countries, most notably the EU's 28 member states, acting unanimously, and the US, Canada and Norway, among others, imposed a series of sanctions against individuals and entities of the Russian Federation throughout the course of 2014. From an economic perspective, the most significant measures have been the so-called 'Stage 3' sanctions (hereafter 'economic sanctions'), which were designed to inflict damage on strategic sectors of the Russian economy.[1] The sanctions enacted by these countries were very similar in nature and scope, and their design and introduction were closely co-ordinated.

It should be noted that the political goal of the economic sanctions was never forcibly to impose a full reversal of Russia's hostile actions against Ukraine. Instead, both the EU and the US stressed that the conflict should be solved diplomatically, with economic sanctions serving as a tool to raise costs for Russia, with the aim of encouraging Russia to *choose* to de-escalate and desist from its illegal actions. According to official documents, the EU's economic sanctions were aimed at 'increasing the costs of Russia's actions to undermine Ukraine's territorial integrity, sovereignty and independence' and 'promoting a peaceful settlement of the crisis'.[2] US President Barack Obama, upon introducing the US's economic sanctions, notably stated that:

> We [the US, UK, Germany, France and Italy] are united in our view that the situation in Ukraine ought to be resolved diplomatically … But we've also made it clear, as I have many times, that if Russia continues on its current path, the cost on Russia will continue to grow … This is a choice that Russia, and President Putin in particular, has made. There continues to be a better choice – the choice of de-escalation, the choice of joining the world in a diplomatic solution to this situation.[3]

The EU's economic sanctions first came into force on 1 August 2014 for an initial, limited duration of twelve months.[4] In response to further Russian escalation in eastern Ukraine, these sanctions were strengthened, starting from 12 September 2014,[5] without modifying their expiry deadline. They were then extended for a further six months in July 2015,[6] and by an additional six months in December 2015.[7] The next expiry deadline is thus 31 July 2016. Importantly, the EU's member states decided, in March 2015, explicitly to link the lifting of the economic sanctions with the full implementation of the Minsk agreements.[8]

The US's economic sanctions came into force on 16 July 2014, with an open-ended duration, focusing at first on a small number of entities.[9] The number of sanctioned entities was increased on 29 July 2014,[10] and the sanctions were strengthened on 12 September 2014,[11] in close co-ordination with the EU's introduction and subsequent strengthening of sanctions.

The economic sanctions are of three types:

1. Prohibition on supplying goods and technology for Russian military use in general; restrictions on technical

 DOI: 10.1080/03071847.2016.1193359

Western sanctions against Russia have targeted its offshore oil sector. *Image courtesy of Krichevsky/Wikimedia*.

or financial assistance to designated armaments companies.

2. Prohibition on supplying goods and services for deep water, Arctic, or shale oil exploration and production in Russia.
3. Prohibition on trading, brokering or supporting the issuance of transferable securities or money-market instruments with a maturity exceeding 90 days on the part of designated major financial, defence and energy industry companies (hereafter 'financial sanctions').

On 12 September 2014, the financial sanctions of both the EU and the US were tightened, with the maximum maturity for transferable securities or money-market instruments set at 30 days instead of 90 days, the restrictions extended to include loans and credits,[12] and the list of sanctioned entities broadened.

In order to assess the impact and effectiveness of these measures, one must first establish their actual intent, based on their initial design criteria, and situate them within the broader picture of the Russia–Ukraine conflict.

Underlying Political Preferences and Design Criteria for the Sanctions

There was a clear consensus among Western nations that Russia's behaviour vis-à-vis Ukraine in 2014 was both dangerous and unacceptable. Russia's brazen violation of key pillars of international law on European soil could not go unanswered. At the same time, a 'military solution' to the conflict was explicitly ruled out at a very early stage. The only credible policy option that remained, therefore, was to tap into non-military instruments of coercion: diplomatic and economic sanctions. Rendering assistance to Ukraine was also included into the broader policy response. This has included important but comparatively limited economic and financial assistance measures, both bilaterally and through the IMF. The provision of lethal military aid to Ukraine has been kept out of the package – though it has been openly discussed in the US.[13] Nevertheless, the overall logic has been to tilt the playing field in Ukraine's favour and in Russia's disfavour, in what would otherwise have been a low-cost victory for Moscow.

At the same time, it rapidly became clear that there was no appetite for very strong economic sanctions, particularly among key European nations.

From a bottom-up perspective, Russia-friendly business interests are deeply embedded in many European countries, and affected businesses are able to deploy high levels of political influence.[14] High influence is not surprising when it comes to the oil and gas sectors, as Russia is the largest single supplier to a very import-dependent and also highly concentrated sector. What is surprising, prima facie, is the comparatively strong political resistance to sanctions that emerged as a result of concerns expressed by export- and investment-oriented sectors – such as non-energy manufacturing sectors and services sectors – since their dependence on the Russian market was rather low at the onset of the conflict, and has since fallen even further (see Table 1 in the Appendix).

From a top-down perspective, very strong sanctions could possibly have been

seen by Russia as escalatory, whereas the goal of Western diplomacy has been to *persuade* Moscow to de-escalate. Furthermore, from the vantage point of early to mid-2014, Europe's own economic recovery still seemed both uncertain and fragile. In that context, it was perhaps easier for official and unofficial corporate lobbyists to gain traction by mentioning the risks of losing 'billions of euros' or 'tens of thousands of jobs' without proper analytical caveats – in particular how small such estimated figures actually were when considering impacts on the EU economy as a whole, in relation to the much larger scale of the entire GDP of the EU (around €14 trillion in 2014) or its total employment level (around 218 million) – and without taking into account the predictable (and now confirmed[15]) ability of many impacted businesses to redirect a large share of foregone business to other markets.

In the case of Germany, for example, the country's main Russia-friendly business lobby group, the Committee on Eastern European Economic Relations (Ost Ausschuss der Deutschen Wirtschaft), used the communication techniques mentioned above.[16] For example, on 25 August 2014 it released a statement claiming that 50,000 jobs could be at risk, but without reference to the total number of employed persons in Germany, which, according to Eurostat, was 39,871,300 at the time – a proportion of just 0.1 per cent. On 5 December 2014, the lobby group released a statement claiming that a fall in exports of €7–8 billion could occur, without reference to Germany's total export volume in that year, which, according to Eurostat, was some €1,088 billion – a proportion of 0.7 per cent.

EU and US officials tasked with the design of the economic sanctions were thus faced with a rather constraining set of policy requirements. Given the concerns mentioned above, the sanctions had to be such that their impact on Russia would be significant, but not catastrophic, while their impact on the EU economy as a whole would have to be limited in order to ensure political acceptance. In an ideal scenario, the EU would have been able to inflict large costs on Russia at no cost to itself, but mutual economic dependence between the EU and Russia ruled out such a possibility. The second-best solution was therefore to look for areas of economic exchange where sanctions would inflict relatively lower costs on the EU than on Russia – preferably by a large margin. It is intuitive that member state governments would have balked at the prospect of measures that would cost them more than they would Russia.

Officials also had to contend with the inherently large differences in exposure to the Russian market of different regions: negligible for North America and parts of Western Europe; low-to-intermediate for Central Europe; and intermediate-to-high for Eastern Europe. This pattern is illustrated, for the case of exports of goods, in Table 2 (in the Appendix). To the extent possible, therefore, officials had to seek measures that would not result in excessively unbalanced impacts between EU member states, lest this create powerful, concentrated political opposition to the sanctions regime. The key issue was to find a feasible and sustainable compromise position on the nature and intensity of the sanctions. As negative impacts would be higher on most EU countries than on the US, it was clear that the EU's own 'internal' compromise position, which requires unanimous decision-making, would likely be less ambitious than the position the US would adopt if acting alone. However, as the sanctions regime would only prove effective with both the US and the EU on board, it could be argued that the European Commission was the main driver in the process of designing sanctions that could gain the broad acceptance that was required, with US colleagues refraining from trying to impose more ambitious ideas.

Besides co-ordination between the EU and the US, broader international co-ordination with selected third countries such as Switzerland was also viewed as important in areas such as finance, so this particular consideration also became a design criterion.

An additional consideration for EU member state governments was to ensure that they had a relatively good degree of control over the intensity of the sanctions, including the possibility of increasing or decreasing their intensity, and the possibility of lifting them. This is self-evidently attractive, giving the possibility of scaling up if impacts are too weak, scaling down if impacts are too strong and unnecessarily damaging or escalatory, and lifting the sanctions if substantial behavioural change is achieved. Another advantage of scalability is the ability to reassure countries and investors that are not party to the political dispute in question that EU and US markets and institutions remain attractive and reliable partners.[17]

The design criteria that were ultimately retained are set out below. The labels for criteria 1–6, and the wording under criterion 7, are those that were used by the European Council president in correspondence with the member states.[18] The design criteria are:

1. Effectiveness (the costs to Russia should be significant, but not catastrophic).
2. Cost/benefit (the induced costs on the EU as a whole should be significantly lower than those experienced by Russia).
3. Balance across sectors and member states.
4. International co-ordination (notably with the US, but also with potentially important third countries from a financial sector perspective, such as Switzerland).
5. Reversibility/scalability (the intensity of the measure should be adjustable, and the measure could be easily lifted). (As a corollary, the impact should be distributed over time, preferably increasing over time, rather than having an instantaneous full effect.)
6. Legal defensibility/ease of enforcement.
7. Policy principle: 'EU sanctions are directed at promoting a change of course in Russia's actions in Ukraine'.

It should therefore be stressed that officials were not asked to design sanctions that would, for instance, rapidly bankrupt the Russian state or cause acute shortages for Russian consumers, to the extent that sanctions with such effects

could be set up. The success of the sanctions should therefore be evaluated against the design criteria that were actually used and against the underlying political preferences that led to them.

Applying the Design Criteria: Exclusion of Selected Possible Measures

The combination of criteria 1, 2 and 3 essentially ruled out sanctions that would force an abrupt reduction in volumes of crude oil and natural gas imported from Russia. While such measures would have undoubtedly hurt Russia's public finances, virtually all member states to the east of France could have suffered severe economic disruption as a result.

The combination of criteria 1 and 3, but not 2, meant that a substantial shutdown of *exports* to Russia (for example, an export ban on a broad set of manufactured goods on which Russia depends) was seen as undesirable, although the objective cost to European exporters, in relation to their much larger global export revenues, could have been quite manageable. This can be seen by analysing the relevant official trade statistics, set out in Table 2: Russia's share in the EU's total exports is comparatively limited. It is also interesting to note that a Russian threat to ban imports of selected manufactured goods from the EU, just before the 12 September 2014 tightening of EU and US sanctions, had no impact on EU or US decisions and was also not carried out subsequently.[19] On the other hand, applying restrictive measures on a *narrow* set of such manufactured goods would prove feasible under all criteria, except criterion 1 – not because damage to Russia would be too high, but because damage to Russia would be too low. This would explain why the sanctions on military and dual-use goods and technologies, and those on advanced oil extraction equipment, while valuable in their own right, could only be a part of the overall package of sanctions.

The corollary of criterion 5 deserves a special comment. The speed with which a restrictive measure deploys its full effect is, de facto, a measure of its aggressive or punitive intent. A measure that gives a single, instantaneous 'hit', followed by a rapidly decreasing impact, offers an inferior incentive structure for the target country: even if the target country wanted to modify its behaviour, it would face a rapidly decreasing incentive to do so over time, since it would have already borne the brunt of the measure. In light of these considerations, one may wonder whether the much-debated threat of excluding Russia from SWIFT (Society for Worldwide Interbank Financial Telecommunication) financial transaction system would have violated criterion 5. SWIFT is a voluntary financial industry platform that provides a secure communication network and common standards for communications between financial institutions worldwide in order to facilitate financial transactions between them.[20] SWIFT's overwhelmingly dominant global position means that entities that are excluded from it – such as Iranian financial institutions, following EU sanctions against Iran in March 2012[21] – suffer from significant delays, technical difficulties and additional costs for all transactions with any other foreign financial institutions. Slower, costlier and ultimately less reliable transactions have led to a chilling effect, discouraging other institutions from engaging in business with or investing in excluded entities.[22]

Excluding key Russian financial institutions from SWIFT would not only have had immediately deleterious effects on them and on the Russian economy, but the highly damaging effects would likely have lasted for an extended period. The damaging effects would only have gone away once a substantial share of key financial institutions across the world had *joined* an alternative financial messaging system not covered by that particular sanction. In sum, exclusion from SWIFT, a currently very unlikely step, would have been compatible with criterion 5, among others, although its effects on Russia would have been serious (stretching criterion 1). In retrospect, it may be argued that the possibility of exclusion from SWIFT functioned well as a credible threat to the Russian authorities – the measure having already been applied against Iran. Russia reacted predictably, and rationally (from the perspective of game theory), by threatening to escalate beyond the realm of economic coercion and without limit, with Prime Minister Dmitry Medvedev stating in January 2015: 'If such a decision is taken our economic reaction, and reaction in other spheres, will be unlimited'.[23] The evolution of the Ukraine crisis and of the sanctions policy has not led, to date, to a real-life test of Russia's actual reaction, which may or may not have revealed some degree of bluff.

Conversely, many authors have pointed out the general risks of using SWIFT as a mechanism for sanctions, as this may elicit the creation of alternative systems which the EU would not be able to monitor or regulate, leading to a loss of future leverage and oversight.[24] Furthermore, a fragmentation of standards and practices for international financial transactions would erode the 'global commons' benefits that the current dominance of SWIFT ensures.

Applying the Design Criteria: Retention of Selected Sanctions

Officials needed to find an area of economic exchange for which Russia's dependence on Western countries was substantial enough to enable significant damage to Russia (criterion 1) and asymmetric enough to ensure substantially lower damage to Western countries (criterion 2).

The best candidate for this was Russia's exposure to Western financial markets, in particular the exposure of key Russian corporations to external debt, often denominated in US dollars and often raised on European capital markets. Conversely, Russia's importance as a customer of Western financial services was quite limited. Using data from the Bank for International Settlements (BIS) for the fourth quarter of 2013, it can be estimated that, of total international banking claims on Russian counterparts, 74 per cent were held by EU banks, and 86 per cent by EU, US and Canadian banks. Conversely, Russian counterparts represented only 0.9 per cent of all foreign claims held by EU banks – and also only 0.9 per cent of all foreign claims held by EU, US and Canadian banks (see Table 3 in the Appendix).

While Russia's total external debt was not enormous at the outset of the Ukraine crisis, it was large enough in terms of its maturity structure to induce

genuine difficulties in the short run, by the end of 2014.

As seen in Table 3, criterion 3 could be seen as being fulfilled not just at the EU level but among a core set of larger Western countries, with roughly similar exposure levels, in billions of US dollars, for the big three continental European economies (Germany, France and Italy), as well as for both the US and the UK. Measures affecting manufacturing exports or energy imports would have had almost no effect at all on the US, thus increasing the risk of transatlantic tensions which Russia could then seek to exacerbate. Within Europe, Italy and Austria were the most exposed (notwithstanding Cyprus, which is known to be highly exposed, but for which BIS data are unfortunately not available). Table 3 contains a rough estimate for the case of Austria, although other sources suggest that the exposure of Austrian banks was somewhat higher than this author's own estimate suggests.[25]

Criterion 4 was of course a matter of close co-ordination, chiefly between the EU and the US, with other Western countries closely behind. Switzerland also agreed to take measures compatible with a successful application of the sanctions.

Criterion 5 could be readily built in, either by targeting some sectors or entities rather than others, or by restricting only certain forms of borrowing, for instance by maturity. In the end, both possibilities were used (and of course lifting such measures is not especially complicated). The first version of the financial sanctions targeted three core 'strategic' sectors (rather than all sectors). Within each sector, the sanctions targeted most of Russia's large enterprises (rather than all enterprises). The Russian state itself was not directly targeted. On 12 September 2014, the financial sanctions of both the EU and the US were tightened (with the maximum maturity set at 30 days instead of 90 days), the restrictions were extended to include loans (rather than only equity and bonds),[26] and the list of sanctioned entities was broadened.

The corollary to criterion 5 was fulfilled thanks to the maturity structure of the external debt in question. With a relatively large peak in the maturity structure in December 2014, Russia knew, in September 2014, that problems would occur three months later. The sanctions would again have an impact, though a smaller one, at the end of 2015. In the longer run, such sanctions would generally weigh down on investment and growth. In sum, Russia would face a long-lasting incentive to seek the lifting of these sanctions.

As mentioned in the previous section, the sanctions on the export of military and dual-use goods and technologies would respect all the criteria except criterion 1 (insufficient economic damage). Politically, however, it seemed irrational to oppose Russia's military actions in Ukraine while still supplying it with weapons systems or technologies.

The sanctions on advanced oil extraction equipment were a somewhat extreme application of the corollary to criterion 5. Russia, in order to maintain its total oil production volume, gradually has to shift from increasingly depleted mature fields that require only established technologies to technically more challenging fields,[27] notably in the Arctic or in the form of shale oil. The sanctions would thus have little effect initially, but could have a negative impact in five to ten years.

Expected Impacts on the Russian Economy

The sanctions on military and dual-use goods and technologies were not expected to have any substantial macroeconomic effect, given how narrow they were.

The sanctions on advanced oil extraction equipment, as mentioned earlier, were expected to reduce Russia's mid-term oil production profile, thus reducing export revenues and leading to lower economic growth.

The financial sanctions were expected to have a number of short-run impacts. The targeted entities would be forced to reimburse their external debt at every relevant forthcoming maturity date, rather than roll it forward on the markets, as is usual practice; not having the liquidity to do so, the targeted entities would turn to the state for support measures. Moreover, given the strategic importance of the companies in question, state authorities were expected to rescue them by tapping into Russia's reserves, either from one of Russia's two sovereign wealth funds (the Reserve Fund or the National Welfare Fund) or, less likely, directly from the central bank's other foreign exchange reserves (this would directly reduce Russia's total foreign exchange reserves).

The transactions needed to reimburse Western investors at maturity would indirectly put pressure on the ruble and the inability to borrow would immediately depress investment in the targeted sectors – and because this includes the banking sector, private sector lending would be constrained. Through a 'chilling effect' among Western investors (driven by a fear of falling foul of sanctions regulation), borrowing conditions in Western capital markets would worsen somewhat even for non-designated entities in the targeted sectors, and possibly for the entire Russian corporate sector. The size of this chilling effect is unknowable ex ante. Confidence among domestic Russian investors would also be negatively affected and capital flight would increase, which would also put pressure on the ruble. The Russian central bank would react to pressures on the currency and to capital flight, either by raising interest rates, by using up reserves to defend the value of the ruble, or by introducing capital controls. Finally, higher interest rates or capital controls would further undermine the investment climate.

The financial sanctions were expected to have a number of long-run impacts.[28] Russian entities would progressively reimburse all of their external debt. From a 'national self-reliance' perspective, this would have the advantage of removing the vulnerability of these companies to sanctions targeting their external debt. However, the reimbursements would mostly be financed from Russia's reserves, which would then be substantially lower compared to a business-as-usual scenario. The longer-term reduction in foreign investment flowing into Russia, notably into the country's banking sector, would lead to cumulative underinvestment across the Russian economy, and this longer-

term underinvestment would gradually decrease Russia's productivity and competitiveness, and thus its equilibrium GDP growth rate and its income levels.

Assessing the Success of the Economic Sanctions

Sufficient empirical data and analyses now exist in order to gauge the short-run success of the economic sanctions from two perspectives. The first is in relation to their proximate goal of causing economic impacts according to design criteria 1 and 2, namely significant but not catastrophic damage to the Russian economy while inducing significantly smaller damage to the EU economy (as shown earlier, the other design criteria were met at the outset, due to how the sanctions were constructed). The second perspective focuses on the underlying political goal of influencing Russian behaviour in the context of its aggression against Ukraine.

This assessment is carried out in the next three sections. The first two sections address the ex-post empirical assessment of criteria 1 and 2 respectively. The third section assesses Russian behaviour in the Ukraine conflict.

The Actual Impact of Sanctions on Russian GDP

It is widely accepted that the Russian economy's poor performance in 2014 and its recession in 2015 were substantially driven by the strong fall in oil prices that occurred shortly after the introduction of Western financial sanctions.[29] Because the onset of the fall in the oil price and the introduction of stronger economic sanctions (those of 12 September 2014) happened roughly simultaneously, and because both of these factors would be expected to cause a fall in GDP, estimating the impact of sanctions on GDP, as distinct from the oil price effect, is empirically challenging. A standard single-equation econometric approach would most likely fail to adequately disentangle the effects.

A somewhat better approach is vector autoregression, which allows for the extraction of a multiple-equation model on an econometric basis. This approach was used in some ex-post assessments of the impact of the sanctions on Iran.[30] However, such an approach has its shortcomings, which are mainly due to the lack of ex ante structure that is typically imposed onto the final model. A more promising methodology would be to use a structural multiple-equation model of the Russian economy that could simultaneously model the transmission channels and interactions between the following key drivers: oil price levels and changes; the sanctions; and Russian policy responses, including both monetary policy and fiscal policy responses, which might mitigate (or exacerbate) recessionary pressures.

The best available analysis of the impact of the economic sanctions remains the IMF's model-based ex ante estimates, which the IMF describes as follows:

> Sanctions and counter-sanctions could initially reduce real GDP by 1 to 1½ percent. Prolonged sanctions, [*sic*] could lead to a cumulative output loss over the medium term of up to 9 percent of GDP, as lower capital accumulation and technological transfers weakens already declining productivity growth.[31]

Further details about the modelling approach, or even about the time horizons for the respective estimates of GDP loss, have not been published.

In the absence of more sophisticated possibilities, one exercise that can be carried out is a simplified consistency check on the IMF's estimate. As mentioned above, the key drivers behind Russia's 2015 recession, which amounted to a fall in real GDP of 3.7 per cent,[32] were: the fall in oil prices; sanctions; and, mitigating the first two factors, injections from Russia's sovereign wealth funds (into the federal budget, or into or on behalf of sanctioned entities facing debt reimbursement deadlines); and possible effects of Russia's monetary policy shift.

The sensitivity of the Russian economy to oil price shocks has been the subject of numerous quantitative estimation exercises. According to an estimate from November 2015, a 'permanent' fall in the oil price of $10 per barrel should lead to a fall in real GDP of 1.1 per cent after twelve months.[33] (A 'permanent shock' is a theoretically stylised fall, or increase, which occurs in full at the beginning of the period, followed by complete stasis.)

The effective average annual oil prices experienced by Russia were, approximately, $94.3 per barrel in 2014 and $50.3 per barrel in 2015.[34] As the oil price fell rapidly in late 2014 and remained more or less stable during 2015, this is about as close as possible, in real life, to the stylised 'permanent shock' described earlier. An estimate of the expected fall in GDP by the end of 2015 is therefore given by multiplying the size of the price fall, 44 (94.3 – 50.3), by 1.1 per cent, which yields 4.8 per cent.

The impacts of the oil shock and of the sanctions need to be set against a counterfactual baseline growth level. According to recent analyses, Russia's underlying growth potential under stable oil prices may have fallen from around 4 per cent in 2005–10 (4–6 per cent according to one historical estimate based on data up to 2005;[35] 3.8 per cent according to another based on data up to 2009[36]) to 1–1.5 per cent today, as a result of institutional weaknesses, a poor investment climate, and the onset of a secular decline in the size of the working age population. This lower estimated growth potential is reflected, for instance, in mid-term model projections published by the IMF in August 2015, according to which, even under a moderately increasing oil price assumption, Russian GDP would only grow by 1.5 per cent a year over 2018–20.[37] Direct empirical support comes from the decline in Russia's growth rate between 2011 and 2013 when, under high but stable oil prices, the real growth rate gradually declined, from 4.3 per cent in 2011 to 3.5 per cent in 2012, and to just 1.3 per cent in 2013.

Russia's switch to a flexible exchange rate policy in November 2014, besides its obvious advantages in terms of shielding the country's current account and foreign exchange reserves, is generally believed to have had a mitigating impact on the ultimate size of the fall in GDP in 2015.[38] While some authors have researched the impact of a country's foreign exchange rate policy on its short-run GDP fluctuations following a terms-of-trade shock, a concrete estimate for the case of Russia does not seem to be

readily available.[39] Crucially, therefore, it is unclear to what extent available estimates of Russia's sensitivity to oil price shocks actually embed these possible monetary policy effects. The working assumption in this article will be that they do – while noting that this issue merits further research.

In addition, Russia's fiscal policy reaction should have had an impact on GDP. The size of this impact depends on what economists refer to as the fiscal multiplier, namely the ratio of a change in output to a discretionary change in government spending or tax revenue. In the case of Russia, the IMF reports an estimate for the short-run one-year multiplier for government spending of 0.8 per cent.[40] Russia made withdrawals from its Reserve Fund in order to support the federal budget, amounting to RUB1,912.20 billion,[41] or 2.4 per cent of 2015 GDP. Applying the multiplier yields 1.9 per cent.

Bringing these estimates together – while recognising that they may not be purely additive and that a full modelling approach should be used – one can at least give a broad-brush picture of the probable impacts of the aforementioned key drivers: starting from an assumed baseline growth rate of 1.0 per cent, assuming an oil price effect of –4.8 per cent, an effect from sanctions of –1.5 per cent and a mitigating fiscal reaction effect of +1.9 per cent, one could have expected a growth rate roughly equal to the sum of these estimated impacts: –3.4 per cent. As noted earlier, Russia's real growth was estimated at –3.7 per cent. While this exercise is admittedly highly simplified, it does suggest that the IMF's estimate of the short-run impact of sanctions of up to 1.5 per cent of GDP is broadly consistent with the size of Russia's 2015 recession and with the probable sizes of other major contemporaneous factors. As for criterion 1, it seems fair to describe a short-term fall in real GDP of 1.5 per cent as 'significant but not catastrophic'.

Impacts on EU GDP versus Impacts on Russian GDP

In general, a recession in Russia means lower demand for imports of goods and services from the EU, as well as lower incomes for EU corporations with investments in Russia. Of course, these effects will occur regardless of the cause of the recession – so estimates should seek to filter out the share of these losses that may be attributed to lower oil prices. Specific losses on the EU side which directly relate to the sanctions include foregone profits from financial transactions involving the sanctioned entities, and from the export of goods subject to the sanctions, namely oil extraction equipment, and military and dual-use goods.

Very few publicly available estimates actually seek to isolate the impact of the sanctions from the broader impact of the Russian recession.[42] Among those that do, the European Commission's published estimate is of a 0.25 per cent decline in EU GDP for 2015.[43] From this estimate, there is no doubt that criterion 2 was very successfully fulfilled: while the Russian economy likely lost up to 1.5 per cent of real GDP, the EU likely lost only 0.25 per cent.

Other estimates of impacts – those that do not adequately filter out the induced effects on the EU economy caused by the broader Russian recession – cannot be used without corrective calculations. One could either seek to remove the effect of oil prices from estimated or measured falls in incomes from, and exports to, Russia; or, on the contrary, add the positive effect of oil prices on EU GDP onto those estimates, which would then adequately describe the *joint* effect of the sanctions and the fall in oil prices. Importantly for this broader context, the European Commission also estimated the *positive* impact of lower oil prices for the EU, at 0.5 per cent of GDP for 2015.

One example, among others, is a study by the Austrian Institute of Economic Research (WIFO), which reports a model-based projection of GDP and employment losses based on the *observed* falls of EU exports to Russia (including trade in services, notably tourism).[44] To their credit, the authors of the WIFO report openly refer to the caveats of their approach. The observed falls in exports to Russia are of course caused by the totality of Russia's recession, as well as by the sanctions; as such, the study's results necessarily overestimate, by a large margin, the damage to EU GDP that may occur through the trade channel due to the sanctions alone. Furthermore, the authors do not account for trade diversion effects. While a proper counterfactual analysis would be required to assess trade diversion, a look at the raw data supports the view that trade diversion has substantially mitigated the EU's export losses to the Russian market.[45]

A brief note should be made regarding deliberate attempts to skew the debate on the impact of sanctions. One particularly clever disinformation tactic on the Russian side has been to compare losses in absolute amounts, rather than as a share of GDP. Indeed, rather than report that the EU's losses may have amounted to just 0.25 per cent of GDP, as against Russia's loss of 1.5 per cent, one Sputnik agency report compared an unofficial but well-known early estimate of impacts of €40–50 billion for losses to the EU in 2014–15, in contrast to an estimate of €25 billion for losses to Russia in 2015.[46] Measuring impacts in terms of GDP shares is the correct approach if one is interested in the ultimate political impacts of sanctions, which should be proportional to the share of national income lost by a particular country.

Russia's Behavioural Response to Sanctions in the Ukraine Conflict

European leaders did not impose economic sanctions in response to the formal annexation of Crimea, which occurred from 18 to 21 March 2014, thereby possibly emboldening Russia to take further actions in the Donbass. On 21 March 2014, the then president of the European Council, Herman Van Rompuy, replied to a journalist's question on the linkage between the annexation and sanctions:

> Of course we integrated already the so-called annexation of Crimea in the Russian Federation yesterday, so, this is for us not a surprise. This is not an element to trigger Stage 3 but I said also yesterday that I would not explain here in public in front of the media what kind

> of element we need to trigger Phase 3. In any case we are preparing already Phase 3, the Commission was tasked to prepare those economic sanctions, and I am convinced that this will be already an impact, already the preparation, the simple fact that we think about that kind of sanctions are already an impact on the Russian economy, and hopefully also on the Russian decision-makers.[47]

There is no question that the EU meant what it said about preparing economic sanctions and, in hindsight, about being prepared to deploy them. However, it is equally clear that the statement may well have been interpreted by the Kremlin as meaning, in its first part, that rapidly imposed facts on the ground do not necessarily elicit a serious response and, in its second part, that the EU was simply bluffing about economic sanctions or, at the very least, that facts on the ground would have to breach an unknown, but presumably high, threshold before sanctions were triggered.

Russia then significantly escalated and deepened its aggression in eastern Ukraine, with a gradual shift from organised mob violence and armed 'volunteers' in March 2014 to an increasingly heavy and structured military footprint from the early summer. The initial July 2014 economic sanctions had little if any moderating effect on Russian actions. Ukrainian forces had been regaining some tactical advantage in July 2014. The Russian response was to increase its involvement substantially, culminating in a substantial encirclement and destruction of Ukrainian forces in the town of Ilovaisk at the end of August 2014.[48] It may thus be concluded that the July 2014 sanctions had the right ingredients and set-up, but not the right intensity.

The tightening of the financial sanctions on 12 September 2014 was the first decisive move. Besides the Ilovaisk debacle, there was also a looming threat to the strategic port city of Mariupol and a clear need to incentivise Russia to comply with the (first) Minsk Protocol, which was signed on 5 September 2014. There is no question that the Russian side had a substantial military advantage, and so it can be quite convincingly argued that the 12 September tightening of sanctions played a role in the decision to refrain from seizing Mariupol or other locations much beyond the ceasefire line.[49] At that point, the EU and the US had succeeded, for the second time in six weeks, in agreeing, in a co-ordinated and unanimous manner, to relatively significant and indeed increasing economic sanctions.

A second tactically important episode is the period immediately following the Ukrainian debacle at Debaltseve in February 2015, shortly after the signing of the Minsk II Protocol, where, somewhat as in Ilovaisk the previous year, a surge in Russian support led to a severe defeat for Ukrainian forces.[50] By late January 2015, new economic sanctions had been prepared,[51] in a co-ordinated manner, by both the US Treasury and the European Commission. It has been argued that the threat of further economic sanctions by both the EU and the US played a significant role in encouraging the Russian side to refrain from further action beyond Debaltseve,[52] in spite of having had the military capabilities and the tactical momentum to do so.

An important development occurred in March 2015 when the European Council – the 28 EU member state governments acting unanimously – made a public political commitment linking the lifting of the economic sanctions with the 'complete implementation of the Minsk agreements'.[53] This commitment ruled out what was a major hope of the Kremlin: to exploit divisions between EU member states ahead of forthcoming decisions to extend the sanctions. In addition, from this point onwards, any threat of new economic sanctions would carry additional weight, as they would presumably come with the same conditional linkage, rather than with no firm linkage, as had previously been the case.

In retrospect, the empirical record shows that the Kremlin only started to believe that the EU in particular could remain united and seriously hurt the Russian economy once the EU had actually started to do so – and once the EU had established its credibility through concrete and consistent actions.

Conclusions

The sanctions imposed on Russia, in combination with credible threats of further sanctions, appear to have had an effect in limiting Russian aggression in Ukraine at a tactical level. At a strategic level, sanctions and threats of sanctions did not lead to a reversal of any facts on the ground, although Russia's self-imposed limits on its encroachment upon Ukrainian territory should be seen as a partial success. This partial success may be seen primarily as a result of the economic sanctions imposed, as the latter were the only actual and therefore fully credible coercive component that accompanied the diplomatic effort to persuade Russia to modify its behaviour.

An open question is the effect of the signal given by US President Barack Obama,[54] in the run-up to the Minsk II agreement, that if diplomacy failed, 'the possibility of lethal defensive weapons is one of those options that's being examined'.[55] An anonymous diplomatic source interviewed by the International Crisis Group suggests that this signal raised the level of psychological pressure *on Germany and France* to achieve a diplomatic agreement, leading to 'a quite awful' document.[56]

A full assessment of the impact of both actual and potential economic sanctions on the Kremlin's decision-making remains elusive, as direct and accurate insider information regarding the thinking of key regime figures is hard to come by. It is, however, possible to posit a counterfactual discussion of the incentives and impacts that could have arisen from different scenarios, based on a rational frame of reference, rooted in game theory.

Other factors assumed equal – notably the resistance on the ground on the part of Ukraine's armed forces – a softer approach in terms of economic sanctions would have likely led to the more aggressive pursuit of hostilities by Russia, given that only the second and last package of sanctions of September 2014 appears to have had any effect. Speaking in January 2016, one US State Department official, cited anonymously in the media, expressed the view that 'if the [economic] sanctions weren't in place, it's pretty easy to imagine that

Putin would have gone a lot further in Ukraine'.[57]

An earlier application of the economic sanctions – for example, applying the July 2014 package as a response to the annexation of Crimea in March 2014, and applying the September 2014 package as a response to the Ilovaisk escalation in July 2014 – would have, at the very least, established Western credibility somewhat sooner in the crisis, thus enabling a credible threat mechanism at an earlier juncture. The actual deployment of stronger sanctions, such as the measures that were prepared in early 2015, as a third package, would have strengthened credibility yet further, thus facilitating future credible threats. On the basis of their presumably significant additional economic impacts, these might have helped to create a further shift in the overall cost-benefit calculus of the Russian leadership. A more pre-emptive application of sanctions might also have had important effects. For instance, sanctions could have been imposed as soon as intelligence reports showed new Russian forces crossing into Ukraine, rather than only after they had strengthened and then led separatist forces into new hostilities, as occurred, de facto, with both the July and September 2014 packages.

In sum, it is likely that somewhat stronger sanctions, earlier and more pre-emptive deployment of sanctions, as well as additional types of economic sanctions could have had stronger effects on Russian behaviour. ■

Edward Hunter Christie is a Defence Economist at NATO. An economist by training, he worked as a research economist, with a focus on Eastern Europe, at the Vienna Institute for International Economic Studies from 2002 to 2010. After a period working for industry and in EU public affairs, he joined NATO's Emerging Security Challenges Division in December 2014.

The views expressed in this article do not necessarily reflect those of NATO or its member states.

The author would like to thank one reviewer from the European Commission and one reviewer from the European External Action Service for their comments on an earlier version of the text, two other reviewers for feedback on selected sections, as well as the anonymous reviewers for their comments.

APPENDIX

Table 1: Relative Importance of the Russian Federation in the EU's Gross Incomes from Goods Exports, Services Exports and Investment Income, Measured in Billions of Euros and as a Share of Total – First Three Quarters of 2013 and of 2015.

Income Category	Partner	Jan–Sep 2013	Jan–Sep 2015
Goods Exports	Extra-EU	1,261.2	1,330.2
	Russia	90.6	53.8
	Russia (%)	***7.2***	***4.0***
Services Exports	Extra-EU	517.1	597.2
	Russia	23.1	18.4
	Russia (%)	***4.5***	***3.1***
Investment Income	Extra-EU	402.8	426.7
	Russia	20.3	15.2
	Russia (%)	***5.0***	***3.6***

Source: Eurostat, 'European Union and Euro Area Balance of Payments – Quarterly Data (BPM6)', (bop_eu6_q), credits, accessed 20 March 2016; and author calculations.

Table 2: Value of Goods Exports to Russia as a Percentage of the Value of Goods Exports to All Countries in the World, EU Member States, in 2013 and 2015.

Member State	2013	2015
Lithuania	19.8	13.7
Latvia	16.2	11.4
Estonia	11.5	6.7
Finland	9.6	5.9
Poland	5.3	2.9
Slovenia	4.6	3.0
Slovakia	4.0	2.2
Czech Republic	3.7	2.0
Germany	3.3	1.8
Austria	3.3	1.9
Hungary	3.1	1.7
Croatia	3.0	1.7
Romania	2.8	1.8
Italy	2.8	1.7
Bulgaria	2.6	1.7
EU Total	**2.6**	**1.5**
Sweden	2.2	1.2
Denmark	1.9	0.9
France	1.8	1.0
Cyprus	1.6	0.5
Netherlands	1.6	0.9
Greece	1.5	0.8
Belgium	1.4	0.8
Malta	1.3	0.1
Spain	1.2	0.7
UK	1.1	0.8
Luxembourg	1.1	0.7
Ireland	0.7	0.3
Portugal	0.6	0.3

Source: Eurostat, 'EU Trade Since 1988 by HS2-HS4 (DS-016894)', accessed 20 March 2016; and author calculations. Includes both extra- and intra-EU trade, in contrast to the data in Table 1.

Table 3: Foreign Claims (Immediate Counterparty Basis), by Nationality of Reporting Bank, Amounts Outstanding, in Millions of US Dollars, to Russian Counterparts versus All Foreign Counterparts, Fourth Quarter 2013.

	Russia	All Foreign Counterparts	Share of Russia
All Bank Nationalities	256,388	28,109,600	0.9%
BIS CBS Reporting Countries	245,008	26,781,900	0.9%
Austria	(estimated) 14,667	428,600	(estimated) 3.4%
Belgium	819	242,900	0.3%
Finland	N/A	27,300	N/A
France	52,076	2,948,100	1.8%
Germany	23,515	2,684,300	0.9%
Greece	377	170,700	0.2%
Ireland	N/A	127,800	NA
Italy	30,531	845,900	3.6%
Japan	20,592	3,349,000	0.6%
Netherlands	18,703	1,295,200	1.4%
Spain	2,831	1,516,000	0.2%
Sweden	N/A	949,200	N/A
Switzerland	7,124	1,826,000	0.4%
UK	17,806	3,789,100	0.5%
EU (estimated)	189,041	20,200,100	0.9%
Share of EU (estimated)	73.7%		
US	31,144	3,015,600	1.0%
Canada	(estimated) 366	1,152,300	(estimated) 0.0%
EU+US+CAN (estimated)	220,551	24,368,000	0.9%
Share of EU+US+CAN	86.0%		

Source: Bank for International Settlements, 'Consolidated Banking Statistics', Tables B2 and B4, accessed 25 March 2016. For Austria and Canada: author estimates of missing data, using available data from other time periods.

Notes

1 For example, see Council of the European Union, 'Council Conclusions on Ukraine', press release, Foreign Affairs Council Meeting, 22 July 2014, para. 7.

2 See Council of the European Union, 'Council Regulation (EU) No 833/2014 of 31 July 2014 Concerning Restrictive Measures in View of Russia's Actions Destabilising the Situation in Ukraine', *Official Journal of the European Union* (L 229/1, 31 July 2014), recital 2.

3 Barack Obama, 'Statement by the President on Ukraine', press statement, White House, Office of the Press Secretary, 29 July 2014.

4 Council of the European Union, 'Council Regulation (EU) No 833/2014 of 31 July 2014'.

5 Council of the European Union, 'Council Regulation (EU) No 960/2014 of 8 September 2014 Amending Regulation (EU) No 833/2014 Concerning Restrictive Measures in View of Russia's Actions Destabilising the Situation in Ukraine', *Official Journal of the European Union* (L 271/3, 12 September 2014).

6 European Council and Council of the European Union, 'Russia: EU Extends Economic Sanctions by Six Months', press release, 22 June 2015.

7 European Council and Council of the European Union, 'Russia: EU Prolongs Economic Sanctions by Six Months', press release, 21 December 2015.

8 See European Council, 'Cover Note', EUCO 11/15, 20 March 2015, para. 10.

9 US Department of the Treasury, 'Announcement of Treasury Sanctions on Entities within the Financial Services and Energy Sectors of Russia, against Arms or Related Materiel Entities, and Those Undermining Ukraine's Sovereignty', press release, 16 July 2014.

10 US Department of the Treasury, 'Announcement of Additional Treasury Sanctions on Russian Financial Institutions and on a Defense Technology Entity', press release, 29 July 2014.

11 US Department of the Treasury, 'Announcement of Expanded Treasury Sanctions within the Russian Financial Services, Energy and Defense or Related Materiel Sectors', press release, 12 September 2014.

12 See the newly inserted paragraph 3 of Article 5 of Council Regulation (EU) No. 833/2014 of 31 July 2014, as amended by Council Regulation (EU) No. 960/2014 of 8 September 2014.

13 The Obama administration limited its assistance to Ukraine's armed forces to the provision of non-lethal aid, in spite of more ambitious calls from members of the US Congress. For example, see Peter Baker, 'U.S. to Give Ukraine's Military an Additional $75 Million in Nonlethal Aid', *New York Times*, 11 March 2015.

14 Extensive commentary is available on the 'Schroederization' of Europe–Russia relations, named after former German Chancellor Gerhard Schroeder, due to the latter's controversial involvement in the Nord Stream gas pipeline. For example, James Sherr defines Schroederization as 'a reliance on untransparent and unconventional means of conducting business [that] has become a generic term for personal understandings between Moscow and foreign political leaders that elude due process and timely disclosure'. Sherr further notes the close relationship achieved by Moscow with the former Italian Prime Minister Silvio Berlusconi. See James Sherr, *Hard Diplomacy and Soft Coercion – Russia's Influence Abroad* (London: Chatham House, 2013).

15 See Edward Hunter Christie, 'Sanctions after Crimea: Have They Worked?', NATO Review, 13 July 2015.

16 See Committee on Eastern European Economic Relations, 'Steigende Verluste im Handel mit Russland und der Ukraine', media release, <http://www.ost-ausschuss.de/node/708>, accessed 20 March 2016; Committee on Eastern European Economic Relations, '"Der Konflikt wird härter"', <http://www.ost-ausschuss.de/node/773>, accessed 20 March 2016.

17 US Department of the Treasury, 'Remarks of Secretary Lew on the Evolution of Sanctions and Lessons for the Future at the Carnegie Endowment for International Peace', press release, 30 March 2016.

18 See European Council, 'Joint Letter to the EU Heads of State or Government by the President of the European Council, Herman Van Rompuy, and the President of the European Commission, José Manuel Barroso, on Restrictive Measures against Russia', EUCO 174/14, press release, 5 September 2014.

19 See Courtney Weaver and Peter Spiegel, 'Russia Threatens to Cap Western Car and Clothing Imports', *Financial Times*, 11 September 2014.

20 See <https://www.swift.com/about-us>, accessed 5 May 2016.

21 See Council of the European Union, 'Council Regulation (EU) No 267/2012 of 23 March 2012 Concerning Restrictive Measures against Iran and Repealing Regulation (EU) No 961/2010', *Official Journal of the European Union* (L 88/1, 24 March 2012).

22 See, for example, *The Economist*, 'The Pros and Cons of a SWIFT Response', 22 November 2014.

23 Howard Amos, 'What Would Exclusion from Payment System SWIFT Mean For Russia?', *Moscow Times*, 28 January 2015.

24 See *The Economist*, 'The Pros and Cons of a SWIFT Response'; Francesco Giumelli and Paul Ivan, 'The Effectiveness of EU Sanctions: An Analysis of Iran, Belarus, Syria and Myanmar (Burma)', EPC Issue Paper 76, November 2013, p. 16.

25 See *Reuters*, 'RPT-Fitch: Austrian Banks are Most Exposed to Russian Risk', 1 April 2014.

26 See newly inserted paragraph 3 of Article 5 of Council Regulation (EU) No. 833/2014 of 31 July 2014, as amended by Council Regulation (EU) No. 960/2014 of 8 September 2014.

27 See James Henderson, *Key Determinants for the Future of Russian Oil Production and Exports* (Oxford: Oxford Institute for Energy Studies, April 2015).

28 For further discussion on possible long-run impacts, see Evsey Gurvich, 'The Impact of Sanctions on Russia: Negligible Now, Disastrous Later', Europe's World, 22 June 2015; and Kirill Rogov, *Can 'Putinomics' Survive?* (London: European Council on Foreign Relations, June 2015).

29 See World Bank, 'Russia Economic Report: The Long Journey to Recovery', Russia Economic Report No. 35, April 2016; IMF, 'Russian Federation: 2015 Article IV Consultation – Press Release; and Staff Report', IMF Country Report No. 15/211, August 2015; European Bank for Reconstruction and Development, 'Regional Economic Prospects in EBRD Countries of Operations', November 2015.

30 Sajjad Faraji Dizaji and Peter A G van Bergeijk, 'Potential Early Phase Success and Ultimate Failure of Economic Sanctions: A VAR Approach with an Application to Iran', *Journal of Peace Research* (Vol. 50, No. 6, November 2013).

31 IMF, 'Russian Federation: 2015 Article IV Consultation – Press Release; and Staff Report', IMF Country Report No. 15/211, August 2015.

32 Russian Federal State Statistics Service, 'Valovoy Vnutrennyi Produkt, godovye dannye, v postoyannykh tsenakh' ['Gross Domestic Product, Annual, at Constant Prices'], <http://www.gks.ru/free_doc/new_site/vvp/130116/tab2.htm >, accessed 7 February 2016.

33 European Bank for Reconstruction and Development, internal presentation, November 2015.

34 The average oil prices used in the text are computed as the arithmetic annual averages of the monthly average effective export prices experienced by the Russian Federation, as reported by the Russian Federal State Statistics Service. See Russian Federal State Statistics Service, 'O sostovyanii rynka nefti v 2015' ['On the State of the Oil Market in the Year 2015'], <http://www.gks.ru/bgd/free/b04_03/IssWWW.exe/Stg/d06/38.htm>, accessed 20 March 2016. Those prices, which are expressed in US dollars per tonne, were then converted to US dollars per barrel using the average technical conversion factor for Russian oil, which is 7.3 barrels per tonne. See US Energy Information Agency, 'International Energy Statistics', <https://www.eia.gov/cfapps/ipdbproject/IEDIndex3.cfm?tid=94&pid=57&aid=32>, accessed 20 March 2016.

35 Roland Beck, Annette Kamps and Elitza Mileva, 'Long-term Growth Prospects for the Russian Economy', *European Central Bank Occasional Paper Series* (No. 58, March 2007).

36 Edward Hunter Christie and Jonas Graetz, 'Russlands Erdöl und -gas: Treibstoff für Autoritarismus und Großmachtanspruch', in Matthias Basedau and Robert Kappel (eds), *Machtquelle Erdöl: Die Außen-, Innen- und Wirtschaftspolitik von Erdölstaaten* (Baden-Baden: Nomos, 2011), p. 223.

37 IMF, 'Russian Federation'.

38 Discussions with Russian economy forecasters from relevant institutions (not attributable).

39 For example, see Christian Broda and Cédric Tille, 'Coping with Terms-of-Trade Shocks in Developing Countries', *Current Issues in Economics and Finance* (Vol. 9, No. 11, November 2003).

40 IMF, 'Fiscal Multipliers: Size, Determinants, and Use in Macroeconomic Projections', *Technical Notes and Manuals* (Washington, DC: IMF, 2014).

41 Computed as the sum of outflowing transfers as reported in Ministry of Finance of the Russian Federation, 'Funds Flow on the Federal Treasury's Account with the Bank of Russia in Rubles in 2015', <http://old.minfin.ru/en/reservefund/statistics/balances/2015/>, accessed 27 March 2016. Treating this total withdrawal of RUB1,912.20 billion as a fiscal stimulus is consistent with a counterfactual scenario without the withdrawals and with total public expenditure reduced by that same amount. It may be noted that the total withdrawal size is consistent with the increase in the budget deficit in 2015 as compared to 2014, which amounted to RUB1,968.11 billion. See Ministry of Finance of the Russian Federation, 'Consolidated Budget of the Russian Federation', <http://old.minfin.ru/en/statistics/conbud/?id_38=25648>, accessed 27 March 2016.

42 For a useful first review of some estimates, see Marcin Szczepanski, 'Economic Impact on the EU of Sanctions over Ukraine Conflict', European Parliamentary Research Service Briefing, October 2015.

43 European Commission, 'European Economic Forecast: Spring 2015', *European Economy Series* (No. 2, 2015).

44 See Austrian Institute of Economic Research (WIFO), 'Disrupted Trade Relations Between the EU and Russia: The Potential Economic Consequences for the EU and Switzerland', press release, 3 July 2015.

45 See Hunter Christie, 'Sanctions after Crimea'.

46 *Sputnik*, 'Russia Loses 25Bln Euro in 2015 Over EU Sanctions', 13 January 2016.

47 Euronews, 'EU Press Conference: Ukraine Deal Signed, Expanded Sanctions against Russia (Recorded Live Feed)', 21 March 2014, <https://www.youtube.com/watch?v=EqXHNEk3a8E>, accessed 8 February 2016.

48 See International Crisis Group, 'Eastern Ukraine: A Dangerous Winter', Europe Report No. 235, December 2014.

49 Stanislav Secrieru, 'Have EU Sanctions Changed Russia's Behaviour in Ukraine?', in Iana Dreyer and José Luengo-Cabrera (eds), *On Target? EU Sanctions as Security Policy Tools*, Report No. 25 (Paris: European Union Institute for Security Studies, 2015).

50 See Alec Luhn and Oksana Grytsenko, 'Ukrainian Soldiers Share Horrors of Debaltseve Battle after Stinging Defeat', *The Guardian*, 18 February 2015.

51 Author's discussions with European Commission officials. For corroborating public statements see *Reuters*, 'UPDATE 1-U.S. Has "More Tools" to Put Pressure on Russia – Lew', 26 January 2015.

52 Secrieru, 'Have EU Sanctions Changed Russia's Behaviour in Ukraine?'.

53 See European Council, 'European Council Meeting (19 and 20 March 2015) – Conclusions', 20 March 2015, para. 10.

54 Barack Obama and Angela Merkel, 'Remarks by President Obama and Chancellor Merkel in Joint Press Conference', speeches and remarks, White House, Office of the Press Secretary, 9 February 2015.

55 *Ibid*.

56 International Crisis Group, 'The Ukraine Crisis: Risks of Renewed Military Conflict after Minsk II', Crisis Group Europe Briefing No. 73, April 2015.

57 Andrew Rettman, 'Sanctions to Have Little Impact on Russia in 2016, US Says', *EU Observer*, 13 January 2016.