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**The Ukraine Support
Tracker:**

**Which countries help
Ukraine and how?**



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ABSTRACT

THE UKRAINE SUPPORT TRACKER: WHICH COUNTRIES HELP UKRAINE AND HOW?

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NOTE: This is the fourth version of the paper and database. We are continuously expanding, correcting, and improving this project and welcome any feedback and comments to ukrainetracker@ifw-kiel.de. We are greatly indebted to dozens of readers around the world who have sent us helpful comments and suggestions.

This paper presents the “Ukraine Support Tracker”, which lists and quantifies military, financial and humanitarian aid to Ukraine in the context of the Russia-Ukraine war. This fourth version covers government commitments made between January 24 and June 7, 2022 and has a new detailed overview on weapon deliveries. We track support by 37 governments, including all G7 and European Union member countries, plus by EU institutions (thus including 38 donors). Private donations and aid through non-governmental organizations are not included due to a lack of systematic data, but we do show estimates on government costs of hosting Ukrainian refugees. To value in-kind support like military equipment or foodstuff, we rely on government statements as well as own calculations using market prices. We find significant differences in the scale of support across countries, both in absolute terms and as percent of donor country GDP. In billions of Euros, by far the largest bilateral supporter of Ukraine is the United States, followed by the EU institutions, the United Kingdom, and Germany. In percent of donor GDP, Eastern European countries stand out as particularly generous, and this is even more so once we account for refugee costs. Importantly, we now also document delays in aid delivery. Only about 17% of financial commitments have actually been disbursed to Ukraine. Moreover, some countries, like Germany or the US, have delivered less than half of the weapons they committed.

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1. Introduction

Russia's attack on Ukraine is causing staggering human suffering and destruction. Many Western leaders have pledged to "stand with Ukraine" and announced major military and humanitarian support. This paper asks: What do the numbers say? How large is the support for Ukraine? What are the most supportive governments? And what type of support do countries offer – military, humanitarian, and/or financial aid? To address these questions, we create a new database, the "Ukraine Support Tracker", which lists and quantifies the support of Western governments to Ukraine. In this, fourth, version we trace aid commitments between January 24, 2022 (the day NATO put some of its troops on standby), and June 7, 2022.

This project fills a gap in the economic discussion on the Russia-Ukraine war. Thus far, the debate has focused on sanctions and other measures to hurt Russia (e.g., Bachmann et al. 2022). Less attention has been devoted to measures to support Ukraine (one notable exception being Becker et al. 2022). Indeed, prior to the publication of this piece, most of the discussion on aid to Ukraine had been anecdotal, while systematic data and rigor had been missing.

The paper can be seen as an extension of the 200-year panorama in Horn, Reinhart and Trebesch (2020), which traces international support via government-to-government loans and grants in major wars, financial crises and natural disasters back to 1790 and worldwide. Indeed, in future versions of this paper, we plan to add historical comparisons to place the current international support for Ukraine into a bigger picture.

The main aim of our database is to quantify the scale of aid to Ukraine and to make the support measures comparable across donor countries. We quantify the support flows by Western governments to Ukraine in millions of Euros, accounting for both financial and in-kind transfers. To do so, we set up a comprehensive database that brings together information from official government sources, existing lists of Ukraine aid, and media reports. Whenever possible, we also compare the scale of aid committed to what was actually disbursed.

An important challenge is to quantify non-financial transfers, such as in-kind shipments of military equipment, weapons, medicines, or foodstuff. In many cases, governments report the value of their in-kind donations in their national currency, which we can use as the baseline value. In other cases, however, governments do not report the value of aid but only mention the items supplied, such as specific weapons or several "tons of foodstuff". We assign a monetary value to in-kind aid using market prices and data on previous instances of international aid deliveries, thus facilitating the comparison of assistance provided across countries.

We mainly focus on bilateral (government-to-government) commitments that are intended to flow towards Ukraine, not remain in the committing country. This means that not all types of support are covered. In our baseline figures, we, therefore, do not quantify the large-scale effort and expenses to help refugees having fled Ukraine, especially by neighboring countries like Poland or Moldova (see Section 8). Quantifying the cost of supporting refugees is hard, since there is no internationally comparable data, much of the help for refugees is in-kind and incurred by private households rather than governments, and the available statistics on Ukrainian refugees are noisy and incomplete. We also do not count private donations, commitments by international financial organizations, or those by non-governmental organizations (NGOs). The

available evidence suggests that private donations are sizable in some countries and can surpass the scale of support by governments.²

We also cannot provide a complete picture of bilateral aid, because some governments do not share details on their support to Ukraine, especially when it comes to sending military equipment and weapons. However, we did our best to meticulously list and quantify all support measures that have become publicly known. This means that we also evaluate leaks of official documents, which list the type and value of military aid in detail, e.g. by Germany or Italy. Moreover, in many cases, weapon deliveries ultimately become public once they have been made, which allows tracking them ex-post, e.g. in the case of Poland.

In total, we trace €85 billion in government-to-government commitments³ from January 24, 2022, until June 7, 2022. This sum includes commitments by 37 countries, including 31 G7 and EU member countries, plus commitments by the European Union institutions (EU Commission and EU Council and the European Investment Bank), as well as six countries which we added in the third version of the paper: Australia, New Zealand, Norway, South Korea, Switzerland and Turkey.

The United States (US) is by far the largest bilateral supporter of Ukraine having committed €42.7 billion, or 50% of total commitments in our 38 donor database. All EU country governments combined committed €11.64 billion, plus €13.54 billion from the EU Commission, and a further €2 billion from the European Investment Bank. This brings total EU country commitments to €27.2 billion. It is remarkable that the US alone has committed considerably more than all EU countries combined, in whose immediate neighborhood the war is raging.

Our main dataset does not include multilateral loans and grants by the International Monetary Fund (IMF) and the World Bank, but we add these flows in a separate sheet and find additional commitments worth €4.4 billion (see Section 3).⁴ In comparison, the commitments by other international organizations like the United Nations or the Red Cross appear minor. We could trace only ca. €55 million of aid to Ukraine from these organizations, but data is scattered and incomplete and therefore not included.

The remainder of the paper is structured as follows. Section 2 gives an overview of how we construct the database, focusing on bilateral (government-to-government) support. Section 3 discusses multilateral and European-level aid. Section 4 summarizes data on aid to Ukraine prior to January 24, 2022. Section 5 presents the main insights from our new database, in particular the country rankings. Section 6 presents an overview on weapons committed and delivered to Ukraine. Section 7 discusses the gap between commitments and disbursements and documents long delays in delivering aid to Ukraine. Section 8 shows (rough) estimates on the government cost of hosting Ukrainian refugees. The last section concludes.

² In Germany, for example, private donations for humanitarian aid to Ukraine exceed €631 million as of March 25 (according to DZI 2022, which gathers data on donations to 67 aid organizations and foundations). This sum is higher than the total amount of humanitarian aid promised by the government at that point in time.

³ Bilateral commitments include bilateral commitments assistance provided made through the World Bank and the International Monetary Fund (IMF).

⁴ Note that we include *bilateral* loan and grant commitments that are made via the World Bank and IMF. Bilateral commitments via other organizations, such as the International Red Cross and the UNHCR are not (yet) included, because they do not report systematic information or data and because the aid is mainly in-kind and, thus, much hard to quantify.

2. Bilateral Support for Ukraine - Data Construction, Definitions and Challenges

This section provides an overview of definitions, sources, and measurement of assistance included in our new database. First, we discuss the types of aid considered. We then describe the data collection process, the primary sources, and the value estimation procedure for in-kind aid like military equipment, medicines, or food aid. Lastly, we discuss coding challenges and “tricky” cases, including “hidden flows”, weapon reimbursement schemes (“circle exchanges”) and the specifics of US aid.

Country sample: We focus on government commitments from 37 countries, plus the EU institutions. The largest country group are the 27 EU members: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden. In addition, we include member countries of the Group of 7 (G7), meaning that we also code support by Canada, Great Britain, Japan, and the United States. Since the third version, we have included six additional countries, namely Norway, Switzerland, Australia, New Zealand, South Korea, and Turkey.

What type of assistance do we track? Government-to-government support: This version of the database focuses on government commitments made to the government of Ukraine. We only consider flows going into Ukraine, but not the support to neighboring countries such as Moldova or Poland, which welcomed record refugee numbers. Accordingly, we also do not include support extended between fellow NATO members.⁵

Since we focus on flows directed to Ukraine, *this version of the database does not include other types of support, in particular, not domestic spending for Ukrainian refugees that have fled the country*. Given the very large number of refugees, the costs and efforts for hosting them can be substantial and likely surpass the value of total commitments to the government of Ukraine for a number of donor countries. This is especially true for neighboring countries like Poland, which has reportedly admitted 3 million Ukrainian refugees, but also Moldova, where Ukrainian refugees exceeded 15% of the population in May. Section 8 presents more details on the support for Ukrainian refugees.

Similarly, we do not count donations by private individuals, companies, churches, or non-governmental organizations (NGOs). Providing a systematic overview of these types of donations remains challenging as there is no standardized reporting or data on these types of aid, and press reporting is unsystematic.⁶

We have also *not* (yet) systematically collected support from international organizations like the Red Cross or the United Nations, mainly because of the lack of data and reporting by most of them. We plan to include estimates on these flows in one of the next updates of the database. In this version of the paper, we provide a short overview on easily identifiable commitments by

⁵ Whenever we were unable to disentangle the aid sent directly to Ukraine’s government from aid sent to neighboring countries, we assumed upper bounds and reported the total value of the aid for Ukraine. One example is the US commitment of \$647 million for an “Economic Support Fund” that allocates resources not only to Ukraine, but also to other countries affected by the Russia-Ukraine war (dataset ID: USH3).

⁶ Some private donations are also channeled through international organizations. For example, UNHCR’s Ukraine emergency response received more than \$200 million from companies, foundations, and individuals (UNHCR 2022c; reported on March 14). Furthermore, there are in-kind donations that are hard to evaluate. Private firm SpaceX reported to have sent “thousands” of Starlink satellite internet kits to Ukraine following the Russian invasion (Sheetz 2022), although these donations seem to have been financed by the US government (Lima 2022).

international organizations in Section 3. This includes information on commitments by international financial institutions like the IMF, the World Bank, and the European Bank for Reconstruction and Development (EBRD). Commitments by the European Investment Bank (EIB) are counted as EU aid, because the “EIB is the bank of the European Union”, according to their website and statutes.

Moreover, *we include bilateral grants and loans made through the IMF or World Bank as bilateral aid in our core dataset.* Examples include grants and loans made to a multi-donor support fund for Ukraine set up by the World Bank, or a Canadian bilateral loan worth €730 million made through the IMF. The reason we count these contributions is that they are “top up” bilateral commitments that are merely channeled through these organizations and thus equivalent to a direct bilateral transfer. These cases are highlighted in the main database and can be easily dropped by users of the data (“Main Database”, column Y).

Defining humanitarian, financial, and military support: We distinguish between military, humanitarian, and financial assistance. Military support includes all types of weapons and military equipment alongside items explicitly donated to the Ukrainian army (such as bottled water, gasoline, or foodstuff). Humanitarian aid refers to assistance supporting the civilian population, mainly food, medicines, and other relief items.

Financial support includes grants, loans and loan guarantees made to the government of Ukraine.⁷ We also consider currency swap lines extended to the Ukrainian central bank, since these are standing credit lines allowing Ukraine to pay for imports and urgent war necessities in foreign currency (Poland extended a \$1 billion line on February 24). *Financial support that is tied to military purposes is counted as military aid.* This includes Sweden’s grant to the Ukrainian Armed Forces (of kr 500 million or €48.3 million on February 27) or Germany’s more recent €1.2 billion financial commitments for weapon purchases by Ukraine. Other important examples are the United States’ “Foreign Military Financing Program” for Ukraine, which provides loans and grants for the purchase of weapons and defence equipment, as well as the European Union’s €2 billion European Peace Facility (EPF) which is set up to reimburse the cost of military weapons and equipment to EU member countries who deliver military material to Ukraine.

Commitments vs. disbursements: We generally report commitments instead of actual deliveries, as information on deliveries is typically scarce. We may thus overestimate the actual amount of aid delivered in some cases.

Sources: To create our new database, we follow the approach of existing trackers such as the “United Nations COVID-19 Vaccine Market Dashboard” and combine official government sources with information from international news media and existing overviews on aid to Ukraine. Specifically, we follow three steps consulting different types of sources:

- Our starting point consists of several helpful ***cross-country overview lists on military and humanitarian aid to Ukraine***. Two such lists are assembled and regularly updated by the British House of Commons Library (Curtis and Mills 2022 and Brien and Loft 2022). We

⁷ These include, for example, Italy’s grant of €110 million (approved on February 27); France’s loan of €300 million with a 1.04% interest rate and maturity of 15 years (committed in early March, approved on March 28) and Japan’s loan of \$100 million (committed on March 25), which is channelled as “parallel financing” by the World Bank.

also draw on the Wikipedia page “List of foreign aid to Ukraine during the Russo-Ukrainian War”⁸, and a factsheet of EU aid by the European Civil Protection and Humanitarian Aid Operations⁹. Furthermore, there exists data collected by The Forum on Arms Trade¹⁰, Politico¹¹, and Aljazeera¹². Neither of these lists is complete, and a systematic comparison revealed errors and inconsistencies. Moreover, these lists state individual aid announcements without systematically quantifying the *value* of assistance, making comparisons across donors challenging.

- The main sources for coding were ***government press releases and government statements***, mainly published on websites of the central governments (prime ministers or governments) and by key ministries (foreign office, defense, economics, and finance). Besides searching through these websites, we also considered the Twitter accounts of governments, their departments, and ministers, which often contain detailed announcements.
- To supplement the government sources and gather additional details, we also conducted a ***systematic media search*** using Google News. For this purpose, we used the following keywords in various combinations: “[donor country name]”, “Ukraine”, “aid”, “military aid”, “humanitarian aid”, “solidarity”, “weapons”, “support”.

Coding procedure: We use official sources, when available, as the main source. At least two separate people coded each entry. In case of inconsistencies between coding entries or sources, we made an in-depth inquiry based on additional sources, which solved the issue in all but a few cases. For almost any transaction, we can draw on more than one serious source to confirm the data entries. We evaluated and ranked the sources by their reliability, taking governmental press releases and government websites as the most reliable source, followed by governments’ statements on social media and news articles reported in renowned international media outlets.

Quantifying in-kind donations – how we measure the value of weapons or foodstuff: Our aim is to move beyond anecdotal evidence and instead quantify the value of support to Ukraine in millions of Euros. Whenever governments report the value of their donations in their national currency, we use these numbers as the baseline value. In many cases, however, governments do not report the value of aid, but only the items supplied like specific weapons or several “tons of foodstuff”.

Valuing these types of in-kind donations is challenging and requires some element of judgment. We plan to continuously improve our estimates and appreciate feedback on individual items to ukrainetracker@ifw-kiel.de.

To summarize, we value in-kind donations by drawing on government sources whenever possible but also resort to price information available from online marketplaces and stores when unavoidable. Moreover, as a general rule, we use upper bounds of prices to avoid underestimating the true scale of support. Furthermore, we use the same unit price for identical items across donors.

For military equipment and weapons, typical prices are often provided on Wikipedia. When possible, we use prices for the exact item (for example, when the exact weapon name or type is

⁸ See https://en.wikipedia.org/wiki/List_of_foreign_aid_to_Ukraine_during_the_Russo-Ukrainian_War.

⁹ See https://ec.europa.eu/echo/where/europe/ukraine_en.

¹⁰ See <https://www.forumarmstrade.org/ukrainearms.html>.

¹¹ See <https://www.politico.com/news/2022/03/22/ukraine-weapons-military-aid-00019104>.

¹² See <https://www.aljazeera.com/news/2022/2/28/which-countries-are-sending-military-aid-to-ukraine>.

known). For protective or supportive military equipment like helmets, vests, or tents, we take averages of the latest available retail prices.¹³ For ammunition prices, we consult online stores and use single cartridge costs. We generally ignore bulk discounts, again choosing upper bound values. When the type of ammunition is not specified, we assume that they refer to the kind of weaponry delivered with the ammunition.

To estimate the value of everyday items with no fixed prices like “pair of shoes” or “bottled water”, we approximate a reasonable value using information from online stores. When possible, we draw on prices and unit costs listed by NGOs or private firms which have donated a specific type of item in this or past crises (for example, sleeping mats).

To estimate the value of medical supplies or “tons of medicines”, we use an average of prices listed by NGO sources.¹⁴ As for “tons of food” delivered, we consult the literature and government info on the value of wasted food, while accounting for luxury and perishable items which would not have been donated (Buzby et al. 2014). “Tons of necessities” are valued at the average price of medical and food deliveries.

Checking for errors – benchmarking our valuation of in-kind donations: To check the reliability of our quantification approach, we have made a number of sensitivity checks. Most importantly, we benchmark our valuation results for in-kind donations for those cases in which we know both the full list of donated items as well as the official value of the package. For those cases, we can use our coding approach and put a monetary value on the arms and other military equipment in the package and then benchmark our estimated total value against the official value given by the donor government itself. Below are five examples for which this type of benchmarking was possible. The comparison is overall reassuring.

- **United States:** On March 16, President Biden announced an additional security assistance package to Ukraine valued at \$800 million, including various anti-armor and infantry weapons, drones, and ammunition (The White House 2022a).¹⁵ Following our assumptions, we estimate a total value of \$773.4 million¹⁶ for the package, which is close to the \$800 million reported by the US government.
- **Germany:** The German government has not shared systematic information on its weapon deliveries to Ukraine. However, on March 24, the magazine Der Spiegel published a detailed leaked list from the German Federal Ministry of Economic Affairs that values Germany’s shipments of military equipment to Ukraine at a total of €37.3 million up to March 7 (Gebauer 2022). In the list, €31.3 million refer to “major and lethal weapons”,

¹³ If the exact type or model is undisclosed, we draw on the donor’s military endowments. For example, if a country’s military largely relies on one type of machine gun, we assume that ammunition of that gun is sent.

¹⁴ This follows the valuation approach by Doctors Without Borders during the Bosnia war, see Annex 5 B: Value Estimation here: <https://www.aerzte-ohne-grenzen.de/sites/default/files/mediathek/entity/document/1998-01-bosnia-report-donation-practices.pdf>.

¹⁵ According to the New York Times, the included 100 Tactical Unmanned Aerial Systems are of the type AeroVironment Switchblade (Barnes and Ismay 2022). These kinds of drones, also known as suicide drones, are cheaper compared to other models and are evaluated at \$6000 per piece according to our source (Rationalinsurgent 2022). Moreover, we value the 20 million rounds of ammunition at \$5 per round according to our sources. This was done to account for rounds sent for grenade launchers and mortars.

¹⁶ Specifically, we assign the following values to the contents of the package: 800 Stinger anti-aircraft systems (our per-unit price assumption: \$119,000 per unit), 2000 Javelins (\$256,000), 1000 light anti-armor weapons (\$2,000), 6,000 AT-4 anti-armor systems (\$1,500), 100 Tactical Unmanned Aerial Systems (\$6,000), 100 grenade launchers (\$2,250), 5,000 rifles (\$700), 1,000 pistols (\$800), 400 machine guns (\$5,300), 400 shotguns (\$1,100), 20,000,000 rounds of small arms ammunitions, grenade launchers and mortar rounds (\$5 per round), 25,000 sets of body armor (\$500), 25,000 helmets (\$1,400).

while €5.8 million are “additional military equipment” (the remaining €200,000 are unspecified). The package includes 500 Stinger missiles and 1,000 Panzerfäuste 3 (lethal weapons), plus a number of less valuable items, including 23,000 helmets, as well as protective vests, and night vision devices.¹⁷ Using our coding approach and price assumptions, we get to a combined value of €66 million for the Stingers and Panzerfäuste 3.¹⁸ This is almost twice the value of €31.3 million reported by Der Spiegel, quite likely because we use prices for new weapons, while the ministry uses second-hand prices. In the database we use the more reliable amount of €31.3 million.

- Czech Republic: According to Czech media reports, the Czech government provided Kč 750 million (€30.3 million) worth of military assistance to Ukraine between the end of February and mid-March (Fraňková 2022). Using our valuation approach, we get to a total value of military assistance of Kč 785 million (€31.85 million) for the same time frame, which is almost identical to the sum reported in the press.¹⁹ In these calculations we do not include the aid delivered in April, since it follows the aforementioned announcement of the Czech government.
- Canada: According to Chapter 5.1 of the Canadian budget for the year 2022, Canada committed CA\$1.2 billion in direct aid to Ukraine and CA\$1.6 billion in loan support for the Ukrainian government (Government of Canada 2022a). The entries in our dataset match these numbers closely. Based on our valuation approach for in-kind commitments, we got to a total of CA\$1.2 billion in military and humanitarian assistance by Canada. This is identical to the number of direct aid now revealed by Canada (CA\$1.2 billion). On financial aid, we get to a total of CA\$1.5 billion²⁰, compared to CA\$1.6 billion listed by the government. The discrepancy is explained by a CA\$120 million loan, which we do not include because it was committed on January 21 and thus three days before we start coding commitments (January 24).
- G7 statement: According to a May 20 press release by the G7 Finance Ministers and Central Bank Governors released, the G7 countries had committed \$19.8 billion (€18.9 billion) in financial support to Ukraine in the year 2022 (G7 Germany 2022). We used this sum for benchmarking with our country-by-country data on financial commitments and got to a total of \$19.625 billion for the G7 countries, which comes very close (with the difference likely due to exchange rates used). Specifically, since January 24 and as of May 20, we counted \$11.653 billion in financial aid by the United States, \$2.334 billion by the United Kingdom, \$1.89 billion by France, \$1.456 billion by Canada, \$1.365 billion by Germany, \$602.3 million by Japan and \$325.5 million by Italy. Section 7 contains a more granular overview on financial aid, focusing on budgetary support and comparing commitments and disbursements.

¹⁷ Another detailed list, by Der Tagesspiegel of March 29 reported an additional dispatch of 8 million rounds of ammunitions, 100 MG3 machine guns and 64 vehicles of which 14 are armored (Krause 2022). In addition, the German government announced the supply of 2,700 Strela missiles on March 3, of which 2,000 have eventually been delivered, while 700 missiles were reportedly unsuitable for use (Gebauer and von Hammerstein 2022a).

¹⁸ Specifically, we assume a price of \$119,000 for each of the 500 Stinger anti-aircraft systems as well as \$10,000 for each of the 1000 Panzerfäuste 3.

¹⁹ Specifically, we get to a total value of Kč 224.7 million (€9.1 million) for the first two military shipments and an additional supply of weapons and equipment worth Kč 400 million (€16.2 million) approved on February 27. Adding Kč 17 million (€690,000) in weapons donated by private arm manufacturers, Kč 31.5 (€1.3 million) in additional military aid, Kč 24 million (€1 million) in additional material and Kč 53.26 million (€2.2 million) in equipment, Kč 30 million (€1.2 million) in fuel and petrol for the Ukrainian Armed Forces, Kč 4.5 million (€182,593) in fire engines, we arrive to a total of Kč 785 million (€31.85 million).

²⁰ We do not include in the computation of the CA\$1.5 billion the CA\$250 million loan announced through IMF's Administered Account.

Cases of “hidden support” and missing information: In February, some governments announced not to share further details on their military support for Ukraine. In our database, that is true for six countries, in particular, namely Finland, France, Germany, Italy, Spain and Portugal. In recent weeks, however, also these countries ultimately revealed the value of most of their military aid. The concern of “hidden support” is becoming less acute in recent releases.

For *Finland*, we faced an almost complete lack of information on military aid until recently, especially regarding the two military packages committed on March 24 and April 19. However, on May 4, the Ministry of Defense said that total military aid sent up until that date amounted to €29.3 million. This information allows us to quantify the previously unquantified commitments and include their overall value in our third and fourth releases. However, a newly announced military aid package of May 5 remains unquantified and is not counted.

In *France*, Thierry Burkhard, chief of staff of the French army, in February explained that France will provide no details on the kind of weapons it intends to send to Ukraine to avoid provoking Russia (Dalton 2022). Accordingly, in the first release of the paper, the only available information on military aid was a vague press statement by the Élysée on February 26. On April 13, however, a tweet by Florence Parley, the French Minister of Defence, revealed that, until that date, France had sent weapons and military equipment worth €100 million since the invasion on February 24. This announcement, along with the commitment of 12 Caesar artillery howitzers made public on April 23 (valued at \$5.5 million each), helped to further quantify the French military assistance. What we still cannot quantify, however, is the additional military equipment announced by President Macron on April 30 (Reuters 2022a) and by the Ministry of Defence on May 31.

For *Germany and Italy*, the press reported many details, so that the picture seems rather complete overall.²¹ Indeed, despite a lack of official data, leading government politicians in Germany have repeatedly confirmed details on individual deliveries in interviews or Twitter statements over the past weeks (see the section on “Sensitivity checks” above). Nonetheless, some parts of the military contributions of both countries remain unclear and hard to quantify, including some recent German commitments made through a so-called “circle exchange” scheme (or “Ringtausch”), as discussed below Nienaber and Adghirni (2022).

Spain’s government initially shared information on military shipments but stopped doing so. Specifically, on March 2, it announced that it will be sending 1,370 anti-tank grenade launchers as well as 700,000 rifles, plus light machine guns and ammunition. On March 11, the government then announced an additional shipment of weapons for which the Spanish Foreign Minister Jose Manuel Albares refused to specify any detail. In this version of the database, we could however track three additional packages of military aid. The first, a minor one, was announced on March 29 and estimated to be worth €644,000. The second and third packages

²¹ Total Italian military aid is valued at €150 million in our database. According to the newspaper La Repubblica, the Italian Minister of Defense Lorenzo Guerini stated on February 28 that the total value of weapons and equipment deployed to Ukraine lies between €100 and €150 million (Mattera and Vitale 2022). Apart from this aggregate information, we know little regarding the total number of items and equipment of Italian military assistance to Ukraine. According to Il Fatto Quotidiano, Italy sent dozens of Stinger launchers to Ukraine, together with millions of rounds of ammunition caliber 12.7, thousands of mortar bombs, browning machine guns, thousands of helmets, Milan launchers and thousands of food rations (Pacelli 2022). As Termometro Politico reports, equipment material accounts for €50 million out of the €150 million in total military aid (Sano 2022). On April 17 and May 10, the Prime Minister announced the decision of sending a second and a third tranche of military equipment. However, no further information about the content of the shipment is available, besides the shipment of an undisclosed amount of FH70 155 mm howitzers, Lince armored cars and 105mm infantry guns M130.

were committed on April 21 and June 5 and could be valued at €21 million and €12 million, respectively, based on information from news media.

Portugal does not officially release details on the value of its military assistance. However, based on media reports, we were able to estimate the cost of two out of the five packages the country committed to Ukraine. The first package, committed on April 30, contains 4 units of Iveco M 40.12 WM/P 4x4 armored vehicle and is worth more than €2 million. The second package was committed on May 8, contains 15 units of M113 armored personnel carriers and 5 units of M114 155mm Howitzers, and is worth almost €7 million. In sum, our dataset quantifies two out of five military aid commitments by Portugal, with those of February 26, April 12 and May 18 remaining unquantified.

Replacement or “circle exchange” arrangements for weapons: In recent weeks, several governments have announced weapon replacement and reimbursement arrangements. In the German public debate, these have become known as “Ringtausch” or “circle exchange”. In essence, these schemes envisage countries delivering weapons to Ukraine to receive replacement weapons for their shipments from either another Western country or through a designated reimbursement fund like the European Peace Facility (EPF). In the context of the Russia-Ukraine war, this typically means that old, Soviet-era weapons shipped to Ukraine are replaced with new, Western weapons systems worth much more than the old weapons. This raises the incentives to deliver military aid to Ukraine, while providing the Ukrainian army with Soviet weapon systems they are experienced with.

The usage and financing of these schemes still remain largely opaque. Weapon replacements and monetary flows are not made transparent by governments and some of the “circle exchanges” may never become public. As a result, it is impossible for us to quantify these flows systematically.

The EPF, for example, is an off-budget funding mechanism not bound to transparency or control by the European Parliament, even though it is financed by member states’ contributions. As a result, we do not know which countries received funds from the EPF, for what type and number or replacement weapons this occurred, and when financial reimbursements via the EPF are made. Adding EPF commitments is thus likely to lead to bias and double counting. For this reason, when adding EU aid shares country by country, we do not count the EPF funds. However, we do count and show the EPF commitments as a contribution from the EU institutions in the rankings below.

From public sources, we could so far identify three cases of weapon replacement schemes:

- *US-Slovakia exchange (S-300 air defense system)*: In early April, Slovakia announced to send its S-300 air weapon defense system to Ukraine (a Soviet/Russian system worth \$68 million, ID: SKM5). In parallel, the United States announced to replace it with one battery of their Patriot systems.²² If we were to attribute the delivery of the air defense system to the United States rather than Slovakia, this would importantly affect Slovakia’s position in the donor rankings of Section 5. Specifically, Slovakia would move from 22nd to 28th place in absolute terms and from 12th to 18th when counting aid in percent of donor country GDP.

²² A few weeks earlier, NATO allies Germany and Netherlands had already agreed to temporarily station three batteries of their Patriot systems in Slovakia.

- *Germany-Slovenia exchange (T-72 tanks)*: On May 6, the Slovenian government announced to send 30 T-72 tanks and 35 BMP-1 tanks to Ukraine in exchange for adequate replacements provided by Germany (Gebauer and von Hammerstein 2022b). Since then, Germany and Slovakia have not (yet) been able to agree on what replacement tanks will be sent, so that the deal has not moved forward (Gebauer and von Hammerstein 2022b).
- *British-Polish exchange (T-72 tanks)*: On April 22, it was reported that the British government intends to send Challenger 2 tanks to Poland in exchange for T-72 tanks sent from Poland to Ukraine (Grylls and Swinford 2022). The British prime minister confirmed that the UK is going to reimburse Poland, however, without revealing further details, e.g. on the number of tanks (Adamowski 2022).
- *Germany-Greece exchange (BMP-1 Soviet tanks)*: On May 31, it was announced that Greece would send Soviet-style weapons in exchange of German infantry fighting vehicles (Reuters 2022b). More information was disclosed a couple of days later, with the media specifying that Greece will send 122 BMP-1 Soviet tanks in exchange of an undisclosed number of German Marder tanks (Kaul 2022). As of June 7, no further details were available, with Greek sources highlighting that Germany has not yet agreed or specified how many Marders will be sent (Spyropoulou and Tsakiris 2022).

Next to the four cases mentioned above, the US provides significant assistance to the Baltic states within the US Security Assistance framework, which, however, are not to be confused with direct reimbursement.²³

Details on US aid commitments and the Ukraine Supplemental Acts: The United States is a large and transparent donor, but the timing and size of US commitments can be confusing, resulting in sometimes contradictory press coverage. According to the available data, the US committed \$9.38 billion in humanitarian aid, \$25.45 billion in military assistance and \$10.51 billion in financial assistance in the period covered here.

To provide major amounts of military aid, the US President needs an act from US Congress, which in the case of Ukraine took the form of the *Ukraine Supplemental Act* that passed on March 10, 2022. The act enabled the president to transfer military equipment and weapons to Ukraine up to a total value of \$3.5 billion. Specifically, it expanded the scope of the so-called presidential drawdown authority, which allows military items to be sent directly from US stocks at the direction of the President (Congressional Research Service 2022, see also US Foreign Assistance Act of 1961).

US military aid to Ukraine, therefore, mostly takes the form of successive drawdowns, as documented in Table 1 of the report by the Congressional Research Service (2022) as well as by the US Department of Defense (2022). During February and March 2022, the Biden Administration announced three such drawdowns: \$350 million on February 25, \$200 million on March 12 and \$800 million on March 16. More recently, it announced drawdowns of \$100 million on April 5, \$800 million on April 13, \$800 million on April 21 and another \$150 million on May 6. A drawdown of \$200 million was already announced in December 2021. Because we consider commitments throughout this paper, we added the entire sum of all drawdowns available after January 24 (\$3.3 bn) to the database, and already did so in the previous versions.

²³ Specifically, the US intends to provide \$180 million to Estonia, Latvia, and Lithuania through the Baltic Security Initiative in 2022, which represents an increase of \$10 million compared to 2021 (Ministry of Defence of Estonia 2022).

This means that the drawdowns of April and May did not increase the aggregate support for the US in the previous update. In addition, the United States committed \$650 million to Ukraine through the Foreign Military Financing Program (Congressional Research Service 2022), \$100 million as a provision to the Civil Security Assistance (US Department of State 2022) and up to \$300 million provided by the Ukraine Security Assistance Initiative (US Department of Defense 2022), a mechanism that differs from the presidential drawdown authority (Congressional Research Service 2022).

Taken together, in the second release of the dataset, we arrived at a total of \$4.35 billion of US military aid committed to Ukraine between January 24 and April 23, 2022. With the May 6 drawdown of a further \$150 million total drawdown had reached \$3.4 billion, thus almost exhausting the \$3.5 billion drawdowns allowed by the Ukraine Supplemental Act.

In the third release, we took into account the second major US aid package, announced only recently against the backdrop of exhausted funds to draw down for Ukraine. In end-April, President Biden requested an additional \$33 billion assistance package (The White House 2022b). Following this request, the US House of Representatives passed the *Additional Ukraine Supplemental Act* on May 10, which focuses on the financing side and is paired with the *Ukraine Lend-Lease Act*, which facilitates weapon deliveries to Ukraine and neighboring countries via a lend and lease scheme. During the negotiation in Congress, the total size of the Supplemental Act was further increased, to a total of \$ 40 billion, plus \$11 billion in additional funds for presidential drawdowns for Ukraine, bringing this package to a whopping \$51 billion. The Act finally came into force on May 21, after the Presidential signature which followed the Senate's approval of May 19 (House Committee on Appropriations 2022; The White House 2022c).

Out of the \$40 billion in the main bill, \$25.14 billion represent military support, of which \$10.1 billion are directed to Ukraine proper,²⁴ while \$15.04 billion of the bill will go to other military purposes, in particular U.S. defence and strategic resilience.²⁵ On top of that, the act stipulates a sum of \$11 billion for presidential drawdowns for Ukraine, which brings the total sum of new military aid commitments directed to Ukraine to \$21.1 billion, which we add to this version of the database.

Besides military support, the Ukrainian Supplemental Appropriations Act also includes \$5.825 billion in direct humanitarian aid, as well as \$8.506 billion in direct financial assistance. Of the \$5.825 billion is in humanitarian support, \$4.502 is directed to Ukraine (and thus added to our

²⁴ In more detail, the \$10.1 direct military aid to Ukraine consists of \$6 billion for the Ukraine Security Assistance Initiative, \$4 billion for the Foreign Military Financing Program and \$100 million for nonproliferation, anti-terrorism, demining and related programs.

²⁵ In more detail, the military aid parts not include are the following: \$9.04 billion intended for the purchase of US military stocks (replenishments); \$3.9 billion dedicated for mission support, intelligence support, and hardship pay to American troops deployed to the region; up to \$950 million for assistance to friendly foreign nations other than Ukraine; \$500 million to procure munitions for the Department of Defence stocks; \$50 million aimed at developing program protection strategies for systems identified for possible future export; and \$600 million for faster missile production and expanded domestic capacity of strategical and critical minerals. None of these items are aid flows to Ukraine proper, so they are not considered in our tracker.

database)²⁶, while \$1.324 billion is mainly directed to refugees outside Ukraine.²⁷ Out of the \$10.05 billion in financial support, a total of \$8.506 billion is directed to the Ukrainian government²⁸, while \$1.544 billion is directed to other countries and institutions (and thus not included here).

After the Additional Ukrainian Supplemental Act came into force, there were no new commitments except for the two presidential drawdowns made on May 19 and June 1, respectively. The first, worth \$100 million, was still part of the \$3.5 billion allowed by the Ukrainian Supplemental Act of March 10, which was thus exhausted. The June 1 drawdown, worth \$700 million, was instead already part of the new \$11 billion provided through the Additional Ukrainian Supplemental Act of May 10. Since our dataset records commitments, we already counted the entire value of the second US act and the two new drawdowns do not change the total sums of US assistance (no change between the third and fourth data release).

3. Multilateral and European-Level Support

3.1 Mechanisms of European Union Support

Our main dataset tracks *bilateral commitments* worth €78 billion of EU and G7 member countries to Ukraine since January 24, 2022 until June 7, 2022. To adequately capture European support for Ukraine, we also account for aid provided through the European Union (Commission and Council) and its various foreign assistance mechanism.

- The **European Peace Facility (EPF)**: In late February 2022, the Council of the European Union approved the creation of a new fund to finance arms and equipment for the Ukrainian army, initially worth €500 million, then doubled to €1 billion on March 23 (European Council 2022a) and further increased to €2 billion with further commitments on April 13 and May 13, amounting to €500 million each (European Council 2022b; European Council 2022d). Out of the €2 billion total, €1.84 billion are intended for the procurement of lethal weapons, with the remaining €160 million for non-lethal assistance (Alhas 2022; European Parliament 2022).²⁹ The funds, financed by member state contributions, will not flow directly to the Ukrainian government, but will instead be used over a longer time period to reimburse EU member countries for the expenses of sending military aid to Ukraine. The exact workings of this fund remain vague and little official details have been published. A recent analysis by Fotidiadis and Schmidt (2022) provides the most detailed analysis, suggesting that there is little agreement on details between EU governments, no systematic data collection, and that “decisions on reimbursement are made unanimously by member states” on a case-by-case basis. In line with this, we found little evidence of how and when

²⁶ Specifically, we include \$4.35 billion intended for International Disaster Assistance to provide emergency food to people impacted by the Ukrainian conflict, \$2 million for technical and regulatory support to the Ukrainian nuclear regulatory agency and \$150 million for the Global Agriculture and Food Security Program to help countries (including Ukraine) fighting the impacts of a rise in food prices.

²⁷ The sums not included consist of \$350 million for refugees outside Ukraine, \$900 million to provide housing and education to Ukrainian refugees in the United States, \$54 million for medical support to Ukrainian refugees in the United States and \$20 million to reimburse the Bill Emerson Humanitarian Trust.

²⁸ This includes \$8.006 billion for the Economic Support Fund to respond to emergent needs in Ukraine and \$500 million to support specialized facilities of the EBRD aimed at helping Ukraine.

²⁹ The non-lethal assistance option allows countries like Austria, Ireland and Malta to contribute to the EPF despite the fact that their domestic laws prevent them from sending lethal weapons (Fotidiadis and Schmidt 2022).

this facility has been used in practice, with only Ireland revealing some details.³⁰ Some announcements can be confusing. For example, in April the German government announced the provision of €400 million to the EPF, which sounded like an add-on commitment. However, this amount roughly corresponded to Germany's share in financing the total EPF fund (€387 million out of a total of €1.5 bn at the time), so that we did not count this commitment twice, and attributed it to the EU rather than to Germany in Section 5 (Tagesschau 2022).³¹

- The European Union's **Macro-Financial Assistance (MFA)** program is a vehicle to support non-EU countries that face a balance of payment crisis via loans and grants. On February 1, before the start of the war, the European Commission agreed to a new emergency MFA program for Ukraine of up to €1.2 billion in concessional loans (the sixth MFA operation in Ukraine since 2014). In response to the war, payouts were fast-tracked, with the first loan instalment of €600 million disbursed in two tranches on March 11 and 18 (European Commission 2022a). The remaining €600 million of low-interest rate loans were disbursed on May 20 (European Commission 2022e). Moreover, on May 18 the Commission announced an additional MFA loan of up to €9 billion, which considerably increases total EU commitments (European Commission 2022f). We report the MFA position as part of *the EU* commitments in the main dataset.
- The **EU Civil Protection Mechanism** is an instrument aimed to improve the prevention, preparedness, and response to disasters. For Ukraine, our data show that about €155 million have been committed through this vehicle since the start of the war. Since this is a coordinating mechanism rather than a fund of its own, we attribute the aid through this instrument to the country providing aid and not to the European Commission.
- The **European Investment Bank (EIB)** presents itself as “the Bank of the European Union”, but legally a separate entity from the European Commission, with its own funding and decision-making process. In March 2022, the EIB announced an emergency solidarity loan for Ukraine of €2 billion plus a small humanitarian package worth €2.5 million. The €2 billion commitment includes the immediate provision of €668 million as liquidity assistance to the Ukrainian authorities, plus €1.3 billion EUR of commitments made for infrastructure projects and reconstruction to be paid out “as soon as conditions allow”. Part of the emergency funding seems to have been committed already before the war (“originally granted to support SMEs and the agricultural sector in Ukraine”), but details are hard to find (European Union 2022). In the previous releases, the EIB commitments were listed in the non-bilateral part of the dataset. However, we have moved it to the bilateral commitments

³⁰ Ireland announced to commit €33 million of its EPF contribution in-kind and directly to Ukraine, specifically for the provision of at least 10 tons of ready-to-eat meals and 200 units of body armor (See <https://www.rferl.org/a/ukraine-ireland-visit-coveney/31803832.html> and <https://www.gov.ie/en/press-release/d6856-minister-for-defence-approves-the-provision-of-specific-additional-support-to-ukraine-including-body-armor-and-meals/>). To avoid double counting we do not attribute this contribution to Ireland but rather count it as EU aid. 200 units of body armor.

³¹ Note that similar cases are reported for Portugal and Latvia. Latvia announced on March 1 to provide 1.2 million EUR to the European Peace Facility to support Ukraine, which corresponds to its calculated share of the EPF volume at that time, 500 million EUR (see https://www.mfa.gov.lv/en/article/latvian-foreign-ministry-channel-eur-24000000-towards-assistance-ukraine?utm_source=https%3A%2F%2Fwww.google.com%2F). Similarly, Portugal announced on February 28 to provide between 8 to 10 million EUR to the EPF, which corresponds to its share to the EPF of 7.34 million EUR (see https://www.euractiv.com/section/politics/short_news/portugals-to-contribute-e8-10-million-to-eus-arms-package-to-ukraine/).

next to the European Union (Commission and Council). EIB aid is thus treated as aid from an “EU Institution”.

3.2 Support by International Organizations

This section offers a brief overview of support to Ukraine by major international organizations. Support by other multilaterals such as the United Nations or the Red Cross will be added in future versions (details on aid amounts by these organizations are not easy to find or not published at all).

- **IMF programs:** On March 9, the International Monetary Fund announced and disbursed an emergency assistance loan of \$1.4 billion to Ukraine under the umbrella of its Rapid Financing Instrument. The purpose is “to help meeting urgent financing needs including to mitigate the economic impact of the war” (IMF 2022a). Moreover, Canada provided on April 8 around €726 million through the Administration Account (IMF 2022b). This account enables countries to provide financial assistance to Ukraine (IMF 2022b). According to the Ministry of Finance of Ukraine, the IMF has disbursed \$1.41 billion as of June 7, thus releasing its commitment under the umbrella of its Rapid Financing Instrument (Ministry of Finance of Ukraine 2022a).
- The **World Bank** mobilized a \$723 million emergency package for Ukraine in early March (World Bank 2022a). The package consists of a \$350 million concessional loan by the World Bank, grant financing of \$134 million (\$100 million by Great Britain, the rest from Denmark, Latvia, Lithuania, and Iceland), as well as loan guarantees by the Netherlands (\$89 million) and Sweden (\$50 million) and \$100 million of “parallel financing” in form of a loan by Japan. On March 14, the World Bank provided an additional amount of \$200 million to bolster social services in Ukraine for vulnerable people (World Bank 2022b). Finally, on April 12 the World Bank announced additional assistance amounting to \$1.5 billion (Lawder and Shalal 2022), but this package was approved only on June 7 (World Bank 2022c). According to the data provided by the Ministry of Finance of Ukraine, out of the \$2.44 billion only \$641 million have been disbursed so far, a share of 26.27% (Ministry of Finance of Ukraine 2022a).
- On March 9, the **European Bank for Reconstruction and Development (EBRD)**, an international organization half-owned by European countries, announced a support package for Ukraine and neighboring countries totaling \$2 billion. The package includes deferred loans, liquidity support, and trade finance (Porter 2022), but there are few further details available. During the G7 meeting in Petersburg, on May 20, \$3.4 billion in “additional planned support” was announced for the EBRD and the International Finance Corporation (G7 Germany 2022). Since no new aid has been officially announced by the EBRD, it is unclear whether this aid includes the \$2 billion committed on March 9, or whether it corresponded to a new package which will be committed in the future. For now, we do not include the sum of \$3.4 billion in our dataset.

3.3 “Stand up for Ukraine” Event

On April 9, Ursula von der Leyen, President of the European Commission, and Justin Trudeau, Prime Minister of Canada, convened the “Stand Up for Ukraine” event in Warsaw. Its aim was to raise money for refugees fleeing Ukraine and internally displaced people. The organizers state that €10.1 billion in donations was raised for Ukraine. Some of the funds, however, had

already been pledged in earlier announcements and by far the biggest chunk will not flow to Ukraine proper, but is intended to support European countries welcoming Ukrainian refugees. In line with our approach explained above, we count those commitments that are intended to go directly to Ukraine, mainly to support internally displaced people. These Ukraine-directed commitments account for €806 million of the €10.1 billion total (less than 10%). Specifically, we count €600 million by the European Commission, €83 million by Belgium, €70 million by Germany, and €53 million by Ireland.

The remaining €9.3 billion are not part of our main database, since they are going to European countries receiving refugees having fled Ukraine, but not to Ukraine itself (European Commission 2022d). For example, the EIB's loan of €4 billion is intended for European countries to "finance the development of key social infrastructure for the provision of public services to refugees, including housing, schools, hospitals and kindergartens." Another loan of €1 billion was pledged by the EBRD to countries welcoming Ukrainian refugees. However, this loan had already been announced as part of the EBRD's "resilience package" on March 9 (see ID: EBF1) and is therefore neither a new commitment nor going to Ukraine. Also, the €1 billion grant by the Council of Europe Development Bank (CEB) is not included, since it appears to be aimed exclusively to support refugees outside Ukraine. The EU Commission pledged €1 billion but of these €400 million are intended to support other countries, so that only €600 million enter our dataset. Finally, there are 13 pledges by individual countries to support Ukrainian refugees at home or in other European countries, but not in Ukraine itself (€3 billion total). These are again excluded. Appendix Figure A2 shows an overview of the pledges made in this event.

A second, follow-up international donors' conference for Ukraine was arranged on May 5, but no longer under the "Stand Up for Ukraine" header. This event was co-hosted by the Prime Minister of Sweden and the Prime Minister of Poland in partnership with the Presidents of the European Council and the European Commission (Republic of Poland 2022). The conference reportedly raised around \$6.5 billion (€6 billion), as stated by the Polish Prime Minister in his concluding statement (Ministry of Foreign Affairs Republic of Poland 2022). Having gone through all individual commitments, we include a total of €2.33 billion pledged by individual countries and €200 million by the European Union.³² We do not include the remaining commitments of €3.74 billion because they are not directed to Ukraine but for hosting refugees outside Ukraine or to international organizations. For consistency, we also exclude aid by private corporations.³³

³² Specifically, for individual countries, we include €366.2 million pledged by the U.S. Agency for International Development, €415 million by Germany, €300 million by France, €283.88 million by Japan, €256.11 million by the United Kingdom, €200 million by Italy, €100 million by Poland, €73.69 million by Canada, €70 million by Romania and Finland, €41.96 million by Austria, €37 million by Hungary, €29.77 million by Belgium, €21.76 million by Sweden, €20.82 million by Denmark, €18 million by the Czech Republic, €8.54 million by the Netherlands (€5 million financial aid and the remainder through an in-kind donation consisting of 17 ambulances), €5 million by Croatia, €2.9 million by Estonia, €2 million by Lithuania, €1.89 million by New Zealand, €1.1 million by Portugal, €1 million by Slovenia and €1 million by Luxembourg.

³³ Specifically, we omit €3.4 billion pledged by Poland for Ukrainian refugees in Poland, €300 million by Italy for Ukrainian refugees in Italy, €20 million by Google, €10 million by Latvia committed to the EBRD, €7 million by Georgia, €3 million by Iceland, Serbia and Astra Zeneca, €1 million by Albania, €1 million by Portugal to the United Nations, €946,000 by the International Business Machine Corporation, €389,000 by Liechtenstein and €189,000 by Colombia.

4. Aid to Ukraine prior to January 24, 2022

This section offers a brief overview of international assistance to Ukraine prior to the time frame covered by our dataset, which starts on January 24, 2022, the day several NATO members put their troops on alert and the US started to evacuate its embassy staff. We start by summarizing the aggregate support between 2014 and 2021 and then highlight individual commitments made in early January 2022.

4.1 Support to Ukraine between 2014 and 2021

Since its independence in 1991, Ukraine has been a regular recipient of bilateral and multilateral support. Russia's occupation of Crimea in 2014 and its subsequent invasion of the Donbass motivated a new wave of commitments by Western governments, with the United States, the IMF, and EU institutions standing out (Mills 2022).

The EU institutions have been by far the largest financial supporters of Ukraine in the years 2014-2021. EU aid took the form of grants and loans for financial and humanitarian support, but little to no military aid. The EU's scope of support was increased drastically after March 2014, following Russia's occupation of Crimea. Specifically, the EU announced a major new financial aid package of up to €11 billion to Ukraine, which was partly motivated to counter Russia's \$15 billion financial aid offer to President Yanukovich in December of 2013. That package contained €1.6 billion in MFA loans, €1.4 billion of grants, up to €8 billion in loans from the EBRD and the EIB, and potentially another €3.5 billion through the "Neighborhood Investment Facility" (European Commission 2022b). Since then, total aid was further increased to a volume of €17 billion, mostly in the form of loans and including several more MFA programs (European Parliament 2022; European Commission 2022c).

With a view to international financial institutions, the IMF approved several major support packages, starting with a March 2014 announcement of up to \$18 billion in new financial aid (Giucci and Zachmann 2014) and a renewed IMF program in 2015 (the disbursements were ultimately much smaller, however). Also, the World Bank and the EBRD offered major packages.

Turning to individual countries, the US has been by far the largest bilateral supporter, including large amounts of military aid (see King 2019 for country comparison until 2019). According to the United States' Congressional Research Service (2021), the US government has provided more than \$2.5 billion in security assistance to Ukraine between 2014 and 2021, mainly through the Ukraine Security Assistance Initiative and Foreign Military Financing. In addition, the US Department of State and USAID provided more than \$3 billion in bilateral, non-military aid since 2014.

The next most important bilateral supporters are Germany followed by Canada. Since 2014, Germany provided more than €1.8 billion in financial support to Ukraine. This support included €750 million in development assistance (mostly GIZ, KfW and PTB projects), €150 million in humanitarian aid ("for clearance and the disposal of explosive remnants of war") and a loan guarantee facility of €500 million (Federal Foreign Office 2022). Moreover, Canada has provided more than €650 million (890 million Canadian dollars) in aid to Ukraine since January 2014 (Government of Canada 2022b).

4.2 Commitments in January 2022

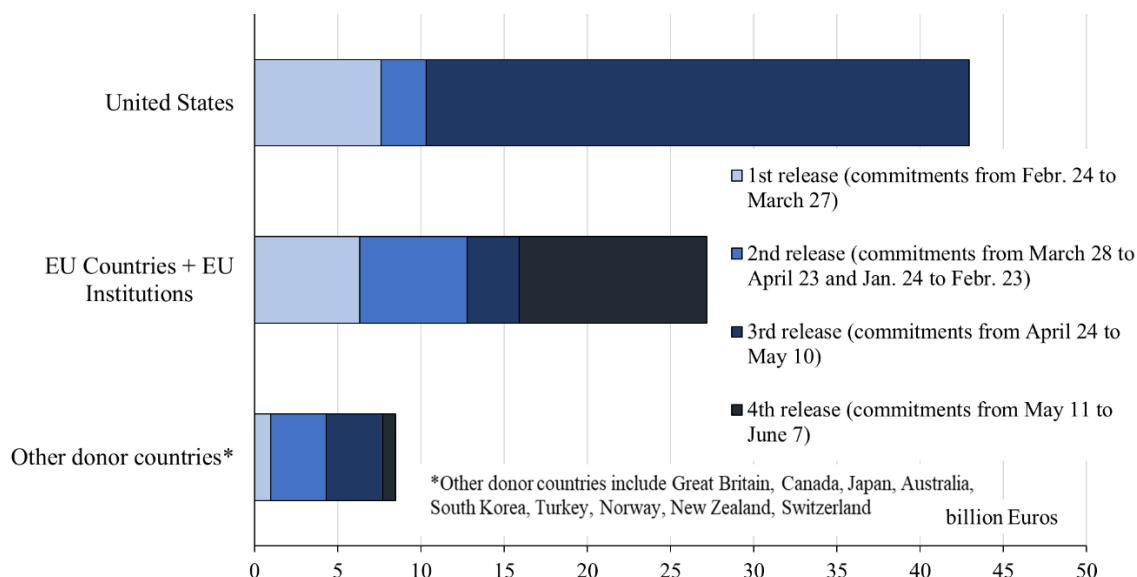
This section lists a few noteworthy commitments made just prior to January 24, the day our data tracking starts. The largest such commitment was made on January 17, when the US government announced a new sovereign loan guarantee of up to \$1 billion to stabilize Ukraine's economy (Biden 2022). On the same day, the British government announced its intention to supply military equipment and weapon systems to the Ukrainian Armed Forces, including 2,000 new light anti-tank weapons (Allison 2022). Moreover, on January 21, Canada announced a loan of up to 120 million Canadian dollars and a technical assistance grant of up to 6 million Canadian dollars (Government of Canada 2022c).

5. Country Rankings

In this section, we summarize the main results from our dataset. Taken together, our main database tracks almost €78 billion of *bilateral* humanitarian, military, and financial support from 38 bilateral donors, made between January 24 and June 7, 2022.

In Figure 1, we compare the size of total commitments to Ukraine across the US, the EU countries and the remaining countries (in billion Euros). The total EU commitments of €27.18 billion include bilateral commitments by all 27 EU member country governments (a total of €11.64 billion), plus commitments of €11.54 billion from the EU Commission and Council (including €10.32 billion of Macro-Financial Assistance (MFA)), the European Peace Facility (EPF) worth €2 billion, and €2 billion by the European Investment Bank (EIB). The remaining countries committed a combined total of €8.48 billion.

Figure 1. Overview: Government support to Ukraine, € billion
Commitments January 24 to June 7, 2022

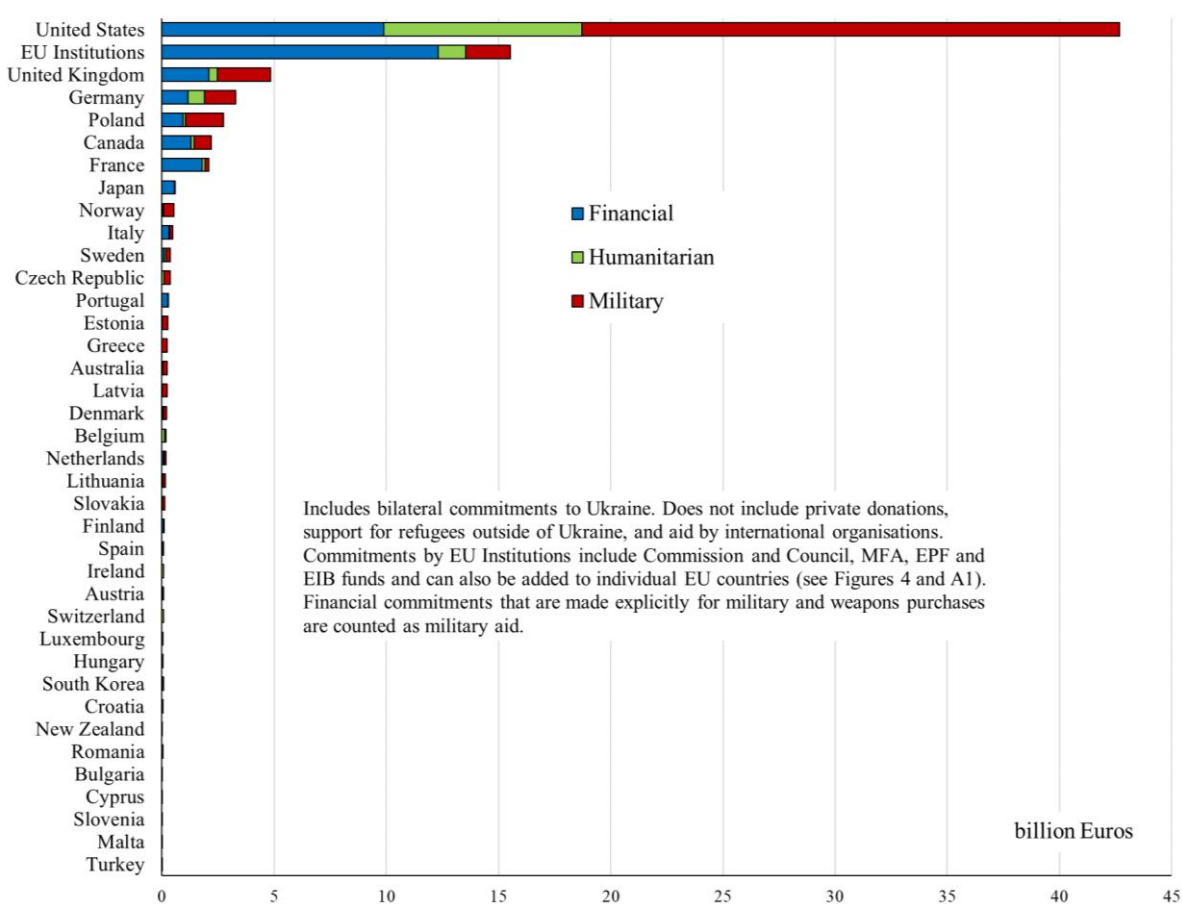


Note: This figure summarizes the support commitments to Ukraine in billion Euros between January 24 and June 7, 2022. EU commitments include bilateral commitments of all 27 EU member countries.

The main insight is that the United States government alone (€42.67 billion) committed almost four times as much to Ukraine than all the individual EU country governments combined (€11.64 billion). However, the large commitments by the EU institutions (€15.54 billion, largely in the form of loans) bring the total European support to a level closer to the US. Outside of the EU and the US, donor countries committed a total of €8.48 billion in assistance, from which most comes from the UK (€4.84 billion) and Canada (€2.19 billion).

In Figure 2, we rank countries by their total *bilateral* commitments since January 24 and differentiate by type of aid. The United States clearly remains the largest donor to Ukraine. Next come the EU institutions (€15.54 billion, mostly MFA, EPF and EIB commitments) and the UK (€4.83 billion). Germany is now the largest EU donor (€3.29 billion) followed by Poland (€2.75 billion), which has delivered large military aid (we show rough estimates on the costs of welcoming Ukrainian refugees in Section 8, adding these would bring Poland to fourth place in absolute terms, with €4.48 billion).

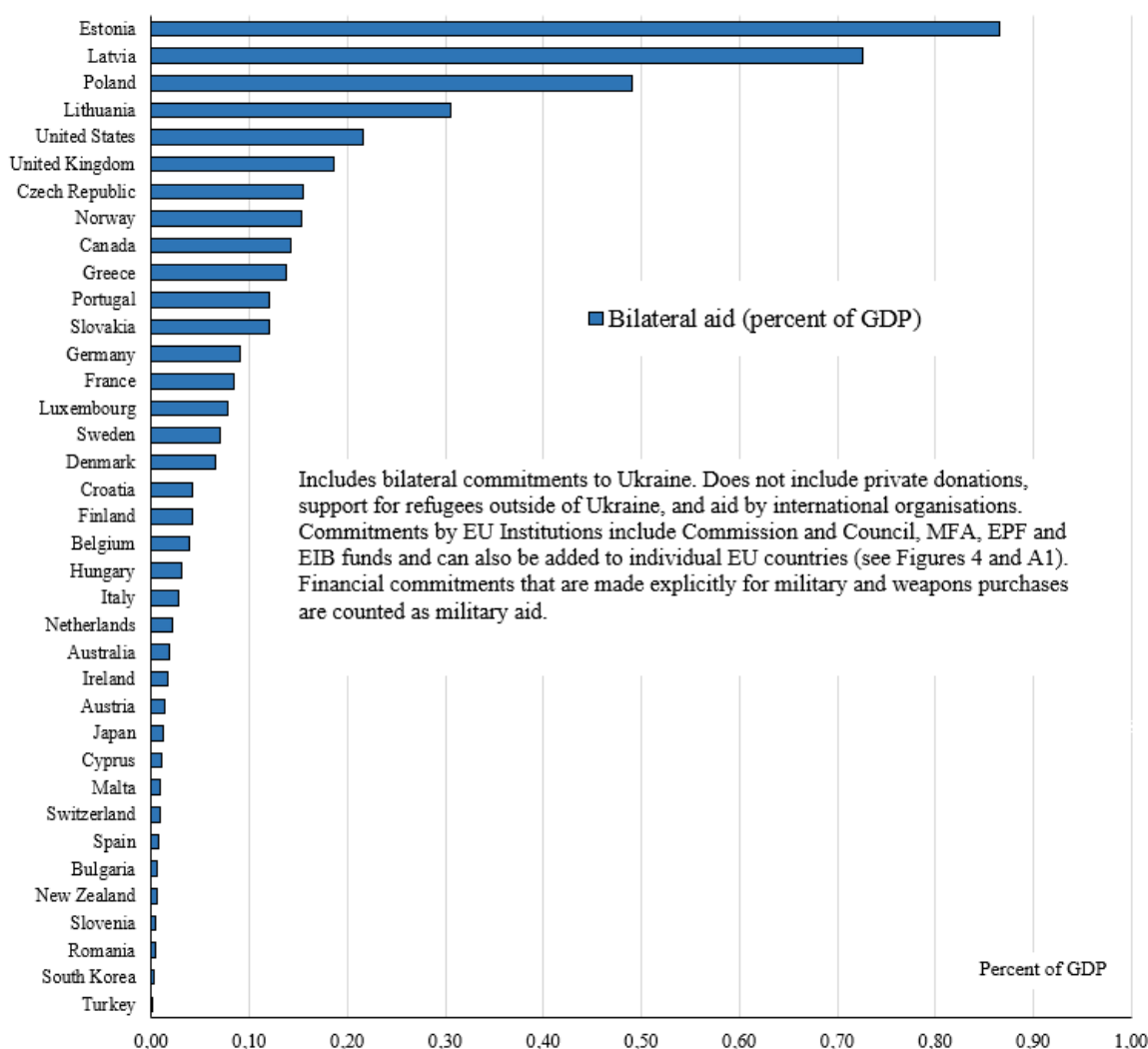
Figure 2. Government support to Ukraine - by type of assistance, € billion
Bilateral commitments January 24 to June 7, 2022



Note: This figure shows total bilateral aid commitments to Ukraine across donor governments in billion Euros (January 24 to June 7, 2022). Each bar besides illustrates the type of assistance, meaning financial assistance (loans, grants, guarantees, and swap lines), humanitarian aid (assistance directed to the civilian population including food and medical items), and military assistance (arms, equipment, and utilities provided to the Ukrainian military). Military aid includes direct financial assistance that is tied to military purposes. Please refer to the main text and our dataset for details on data collection and sources.

As a next step, we scale bilateral aid commitments by each donor country's GDP (in percent). Figure 3 shows that Eastern European countries stand out as particularly generous when considering the size of their economy, with Estonia, Latvia, Poland and Lithuania ranging among the top ten donors. The United States (being the largest donor in absolute terms) comes in 5th, with assistance worth around 0.22 percent of its GDP. As shown in Section 8, Eastern European countries show even higher commitments relative to GDP if one were to account for support by hosting Ukrainian refugees.

Figure 3. Government support to Ukraine - as percent of donor country GDP
Bilateral commitments January 24 to June 7, 2022

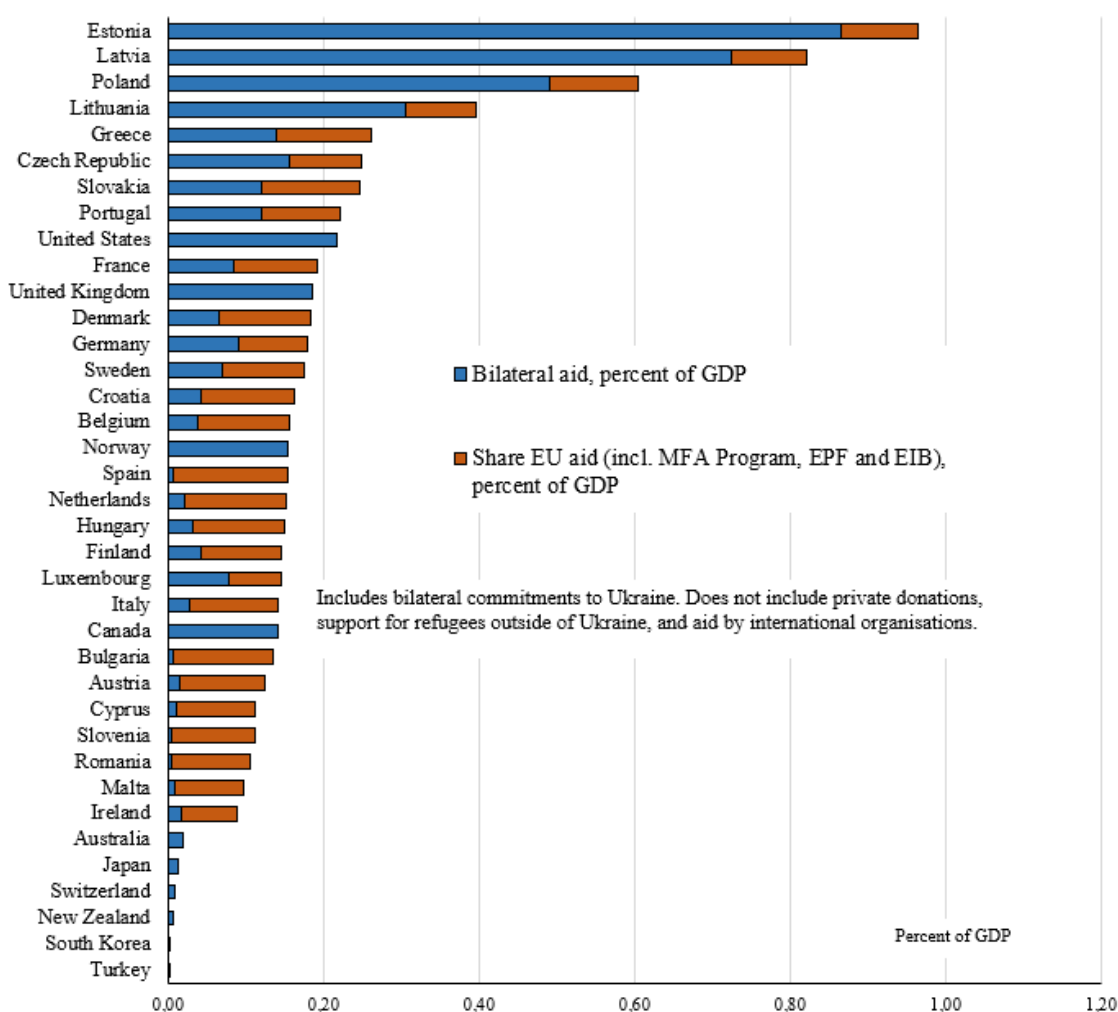


Note: This figure ranks countries by the scale of bilateral aid as percentage share of each donor's GDP. We consider total commitments to Ukraine between January 24 and June 7, 2022. The data on GDP (current US\$) is for 2020 and taken from the World Bank. See the main text for details on data collection and sources.

Figure 4 takes a different perspective than Figure 3 as it assigns EU-level commitments to the individual EU countries (the corresponding graph in billions of Euros is shown in Appendix I).³⁴ The blue bar segments indicate bilateral aid (those of Figure 2), while the brown segments represent each country's share in commitments through the various European institutions and mechanisms, which include the European Commission and Council, the Macro-Financial Assistance program, the European Peace Facility and the European Investment Bank. More specifically, we assign EU-level commitments as follows. EU commitments, the MFA and EPF are allotted based on each member country's relative contribution to the EU budget. Similarly, for the EIB, we assign commitments using each country weight in the EIB's capital subscription shares. The contribution share is transformed from euros into percentage of the donor country's GDP, represented by the orange segments.

³⁴ We map commitments by the EU (European Commission and European Peace Facility) into (additional) bilateral commitments in line with each donor's contribution to the EU's budget in 2020 (Clark 2022). Commitments by the European Investment Bank (EIB) equivalently translate into bilateral assistance following each EU member's relative capital subscription in 2012 (European Union 2012; Protocol (No 5), Article 4). The amount of EIB subscribed capital is based on the economic power of a member country when joining the EU. All commitments are taken as percent of the country's GDP.

Figure 4. Government support to Ukraine including EU share - as percent of donor GDP
Bilateral and EU commitments January 24 to June 7, 2022



Note: This figure shows a ranking of bilateral commitments after accounting for EU-level aid and financing vehicles. We assign EU-level commitments as follows: EU commitments (Macro-Financial Assistance, EPF, humanitarian aid) are allotted based on each member country's relative contribution to the EU budget. Similarly, we assign EIB commitments using each country weight in the EIB's capital subscription shares. See the main text for details on data collection and sources.

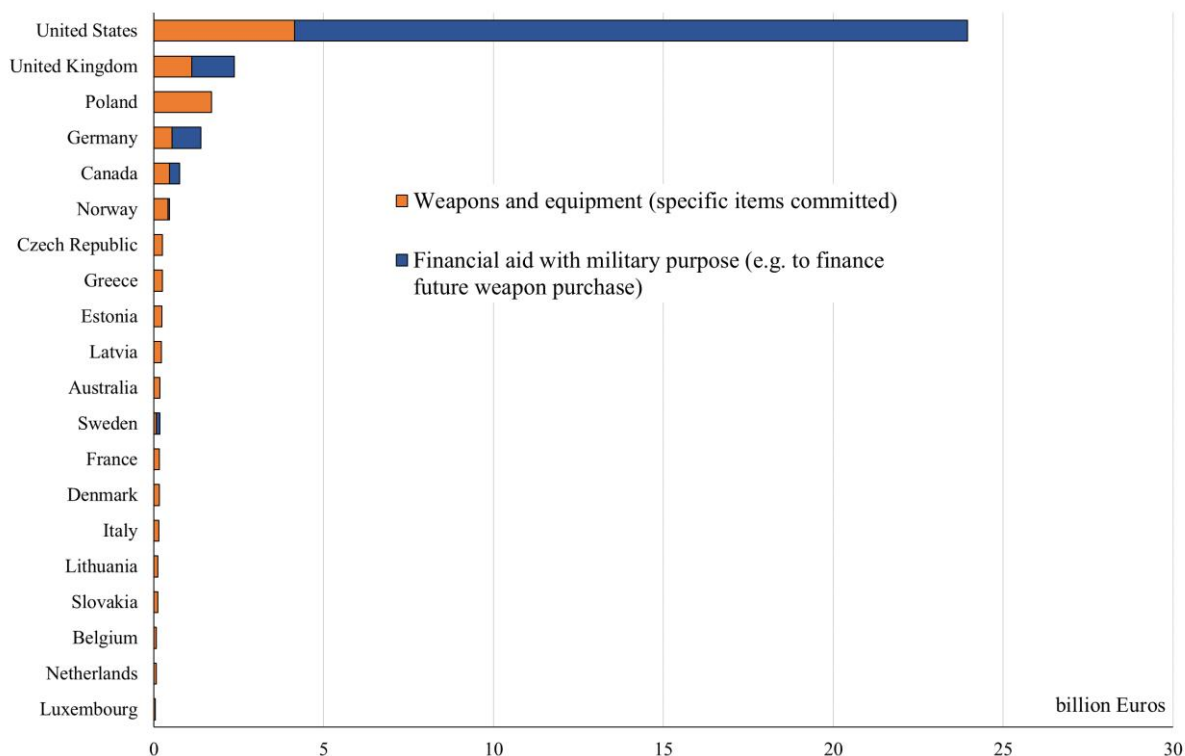
As can be seen, the overall picture does not change much when adding EU support. Estonia remains the largest donor (0.97% of GDP), Latvia remains in second place (0.82%), and Poland is third (0.61%). Overall, the ranking remains very similar to the one presented in Figure 3 (only bilateral assistance).

Turning to the type of aid, we find that the ranking of *military* aid resembles that of total aid in Figure 2. This can be seen in Figure 5, which shows a ranking of total military aid, differentiating between specific weapon and equipment commitments and more vague forms of military support, in particular financial commitments tied to military purposes, e.g. for future weapons purchases. The US again clearly tops the list (€23.96 billion total military aid, of which €4.14 billion in weapon and equipment commitments and €19.81 billion in financial aid with a military purpose). Next comes the UK (€2.38 billion, of which €1.11 billion in weapon and equipment commitments and €1.26 billion in financial aid for military purposes), Poland (€1.7

billion, all for specific weapons and equipment), Germany (€1.39 billion, of which €542 million in weapon and equipment commitments and €850 million for financial aid with military purpose).

Figure 5. Military aid (including financial) in € billion (top 20 of 37 donors)

Bilateral commitments January 24 to June 7, 2022

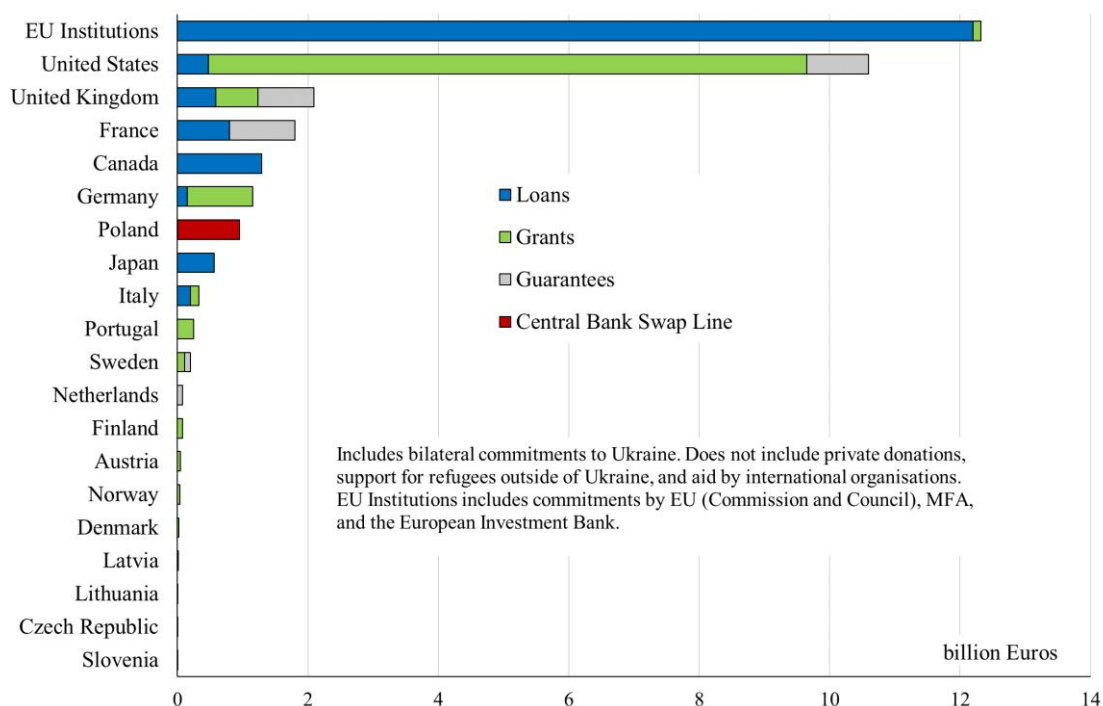


Note: This figure shows a ranking of the top 20 donors (out of 37) that have offered military aid in the form of weapons and equipment and financial aid with military purpose to Ukraine between January 24 and June 7, 2022 (bilateral disclosed military commitments only, in billion Euros). To avoid double counting, we do not include EU (Commission and Council) contributions. Financial commitments that are made explicitly for military purposes and weapons purchases are counted as military aid. See the main text for details on data collection and sources.

Finally, we shed light on the different forms of *financial* aid to Ukraine. Figure 6 shows a ranking of total financial aid, distinguishing between commitments through bilateral loans, grants, central-bank swap lines as well as financial guarantees. The large bulk of financial assistance to Ukraine comes from a small set of donors, in particular, the EU's institutions (€12.32 billion) and the US (€10.59 billion). Next, come the UK (€2.09 billion), France (€1.8 billion) and Canada (€1.29 billion), as well as Germany in 6th place. Poland comes in 7th, being the only country, whose central bank has established a swap-line to the Ukrainian central bank (worth \$1 billion, or €0.95 billion at current rates).

Figure 6 further differentiates by type of financial aid, with large differences across donors. The United States mostly committed grants (unilateral fiscal transfers), while the EU institutions mostly committed loans that are to be repaid and thus add to Ukraine's already high debt burden. Also, the UK and Germany promised significant grants to Ukraine, while France, Japan and Canada offered repayable loans rather than grants.

Figure 6. Financial aid in € billion (top 20 of 38 donors)
Bilateral commitments January 24 to June 7, 2022



Note: This figure shows a ranking of the top 20 donors (out of 38) that have offered financial assistance in the form of loans (blue segments), grants (green), financial guarantees (gray), central bank swap-lines (red) to Ukraine between January 24 and June 7, 2022 (bilateral disclosed financial commitments only, in billion Euros). See the main text for details on data collection and sources.

6. Weapon Commitments and Deliveries

Since the start of the invasion in late February, Ukraine’s president Volodymyr Zelensky repeatedly emphasized the country’s need for heavy weapons like tanks, artillery, and armored vehicles. By the end of March, only the United States, Estonia and Poland had sent heavy weapons to Ukraine, while Western and Northern European countries remained more hesitant, sending infantry weapons or portable anti-tank weapons instead (e.g., Javelins, NLAWs, or MILAN launchers). This changed over the course of April, with further governments including Canada, Czech Republic, Australia, France, Belgium, Germany, Netherlands, Denmark, Lithuania, Spain, Portugal, Slovakia and Latvia committing to send heavy weapons to Ukraine. In this section, we provide an overview of the type and amount of weaponry governments have committed and delivered to Ukraine as of June 7, 2022, and based on the publicly available information we could gather (for the full picture see the “Main Dataset” sheet in the accompanying excel file).

Table 1 shows the aggregate number of weapons committed and sent in nine categories. Our aim was to cover the main weapon types emphasized by Ukraine, especially heavy weapons and man-portable defense systems. The list does not include light infantry weapons like machine guns, rifles or hand grenades, and also not general military equipment, like helmets or protective gear, as well as ammunition. In Appendix II, we zoom into every of the main categories and show an item-by-item list of main weapon commitments and deliveries.

Table 1. Aggregate overview: main weapon categories by type
Bilateral commitments and deliveries between January 24 and June 7, 2022

Weapon type	Delivered (our dataset)	Additional committed (our dataset)	Delivered according to Ukr. Ministry of Defence (June 9)
<i>Artillery (howitzers)</i>			
155mm NATO artillery	up to 175	17 units at least	150
Soviet-type artillery	29 units at least	-	50
Mortars	100 units at least	undisclosed	hundreds
<i>Armored vehicles</i>			
Armored vehicles	up to 360	99	250
Other Armored Vehicles	147	218	-
<i>Multiple rocket launchers (MLRS)</i>			
Soviet-type MLRS	20	-	dozens
NATO-type MLRS	-	8 units at least	-
<i>Tanks</i>			
Soviet-type tanks	252	8	-
NATO-type tanks	-	40	-
<i>Air-defense system</i>			
Air-defense systems	1	1	-
<i>Coastal defense system</i>			
Anti-ship missile systems	1	1	1
<i>Man-portable air-defense and anti-tank systems</i>			
MANPADS and anti- tank guided missiles	2,310 units at least	60	thousands
Other missile systems	32,800	6,150	-
<i>Aircraft</i>			
Helicopters	3 units at least	19	-
<i>Unmanned aerial systems</i>			
Combat drones	undisclosed	undisclosed	several dozens
Others	up to 846	-	-

Note: The data published by the Ukrainian Ministry of Defence (2022) includes deliveries of weapons as of June 9, 2022 (fourth column). Our data on weapon deliveries is as of June 7, 2022 (second column). See Appendix II and our database (sheet “Main dataset”) for further details and sources.

As can be seen in the last column, we benchmark our numbers to the aggregate numbers published on June 9 by the Ministry of Defence of Ukraine (2022). Compared to their list, we show additional weapon types, most importantly tanks and air-defense systems. Overall, our

aggregated micro-level data is roughly in line with the aggregates reported by the Ukrainian Ministry of Defense. For artilleries and armored vehicles, we report upper bounds in the table, because there was limited information on whether US deliveries had occurred by June 7 or not.

In the following Tables 2 to 16, we document weapon commitments and deliveries by country, focusing on the top 15 donor countries with respect to military aid. In addition, Appendix II provides a detailed overview of heavy weapon deliveries and commitments *by weapon type* including a documentation of sources on our delivery data.

Table 2. **United States:** committed vs. delivered weapons (main weapon types)

Weapon type	Committed	Delivered	Not (yet) delivered
M777 howitzer	Apr 13	108 (partially)	-
HIMARS 142 multiple rocket launcher	June 1	-	4
Humvee Multipurpose Vehicles	Apr 13	100	-
Tactical vehicles	April 21	-	72
M113 armored personnel carrier	Apr 13	200	-
Stinger	March 16	800	-
grenade launchers	March 16	100	-
Javelin anti-tank system	March 16	2,000	-
Javelin command launch	June 1	-	50
Mi-17 military helicopter	April 13 / June 1	3	12
Switchblade drones	Apr 13	700 (partially)	-
Puma drones	Apr 01	undisclosed	-
Phoenix Ghost drones	Apr 21	121 (partially)	-

Note: See Appendix II and our database (sheet “Main dataset”) for further details and sources. The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table 3. **United Kingdom:** committed vs. delivered weapons (main weapon types)

Weapon type	Committed	Delivered	Not (yet) delivered
M770 multiple rocket launcher	June 6	-	undisclosed
Mastiff (6x6) protected patrol vehicle	Apr 09	120	-
Stromer armored vehicle	May 19	undisclosed	-
Anti-ship missile system	Apr 09	-	undisclosed
Brimstone-1 missile	May 3	200	undisclosed
NLAW anti-tank system	March 9 / April 8	3,965	-
Starstreak	March 9	undisclosed	-
Heavy transport drone	May 5	undisclosed	-

Note: See Appendix II and our database (sheet “Main dataset”) for further details and sources. The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table 4. **Poland:** committed vs. delivered weapons (main weapon types)

Weapon type	Committed	Delivered	Not (yet) delivered
LMP-2017 60mm mortar	until April 5	100	-
AHS Krab self-propelled howitzer	May 29	18	-
T-72 tank	until May 5	240	-
Javelin	until May 4	undisclosed	-
FlyEye	prior to Feb 24	undisclosed	-
Warmate	prior to Feb 24	undisclosed	-

Note: See Appendix II and our database (sheet “Main dataset”) for further details and sources. The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table 5. **Germany:** committed vs. delivered weapons (main weapon types)

Weapon type	Committed	Delivered	Not (yet) delivered
Panzerhaubitze 2000	May 4	Training has started in May	7
Mars II multiple rocket launcher	June 1	-	4
armored vehicle (undisclosed)	until April 19	14	-
Strela	until April 19	2,000	-
Panzerfaust 3	until April 19	900	-
Gepard anti-aircraft tank	Apr 26	-	30
IRIS-T SLM air-defense system	June 1	-	1
Stinger	until April 19	500	-

Note: See Appendix III and our database (sheet “Main dataset”) for further details and sources. The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table 6. **Canada:** committed vs. delivered weapons (main weapon types)

Weapon type	Committed	Delivered	Not (yet) delivered
M777 howitzer	Apr 22	4	-
M72 rocket launcher	Feb 27	4,500	-
Carl Gustaf M2 recoilless rifle	Feb 27	100	-
Roshel Senator (4x4) armored personnel carrier	Apr 21	8	-

Note: See Appendix II and our database (sheet “Main dataset”) for further details and sources.

The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table 7. **Norway:** committed vs. delivered weapons (main weapon types)

Weapon type	Committed	Delivered	Not (yet) delivered
M109 howitzer	June 7	22	-
M72 rocket launcher	Feb 28 / March 31	4,000	-
Mistral	Apr 20	100	-

Note: See Appendix II and our database (sheet “Main dataset”) for further details and sources.

The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table 8. **Estonia:** committed vs. delivered weapons (main weapon types)

Weapon type	Committed	Delivered	Not (yet) delivered
D-30 122 mm howitzer	February	undisclosed	-
Javelin	until June 6	undisclosed	-
Mambas (4x4) armored vehicle	until May 6	undisclosed	-
unspecified type of drone	May 5	dozens	-

Note: See Appendix II and our database (sheet “Main dataset”) for further details and sources.

The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table 9. **Greece:** committed vs. delivered weapons (main weapon types)

Weapon type	Committed	Delivered	Not (yet) delivered
Czech-made RM-70 missile	March / May 26	122	2,100
RPG-18 anti-tank system	March 15 / May 26	815	1,100
BMP-1 Soviet tank	May 26, 2022	-	122
Stinger	May 26, 2022	-	60

Note: See Appendix II and our database (sheet “Main dataset”) for further details and sources.

The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table 10. **Czech Republic:** committed vs. delivered weapons (main weapon types)

Weapon type	Committed	Delivered	Not (yet) delivered
DANA howitzer	Apr 22	20	-
RM-70	Apr 22	20	-
T-72 tank	until May 5	12	8
BVP-1 infantry fighting vehicle	Apr 05	5	-
Shoulder fired MANPAD	Feb 27	160	-
Mi-24 helicopter	May 23	-	7

Note: See Appendix II and our database (sheet “Main dataset”) for further details and sources.
The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table 11. **Latvia:** committed vs. delivered weapons (main weapon types)

Weapon type	Committed	Delivered	Not (yet) delivered
Stinger	until April 6	undisclosed	-
unspecified type of helicopter	Apr 06	undisclosed	-

Note: See Appendix II and our database (sheet “Main dataset”) for further details and sources.
The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table 12. **Denmark:** committed vs. delivered weapons (main weapon types)

Weapon type	Committed	Delivered	Not (yet) delivered
M10 mortar	Apr 21	-	undisclosed
M113 armored personnel carrier	Apr 21	-	50
Harpoon anti-ship missile system	May 23	1	-
M72 rocket launcher	Apr 21	2,700	-
Stinger	Apr 22	300	-
Skywatch drone	Apr 22	25	-

Note: See Appendix II and our database (sheet “Main dataset”) for further details and sources.
The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table 13. **Australia:** committed vs. delivered weapons (main weapon types)

Weapon type	Committed	Delivered	Not (yet) delivered
M777 howitzer	April 28	6	-
Bushmaster protected mobility vehicle	April 21 / May 19	20	20
M113 armored personnel carrier	May 19	-	14

Note: See Appendix II and our database (sheet “Main dataset”) for further details and sources.
The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table 14. **Sweden:** committed vs. delivered weapons (main weapon types)

Weapon type	Committed	Delivered	Not (yet) delivered
AT4 anti-tank system	until March 23 / June 2	10,000	5,000

Note: See Appendix II and our database (sheet “Main dataset”) for further details and sources.
The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table 15. **France:** committed vs. delivered weapons (main weapon types)

Weapon type	Committed	Delivered	Not (yet) delivered
CAESAR howitzer	April 23	12	-

Note: See Appendix II and our database (sheet “Main dataset”) for further details and sources.
The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table 16. **Italy:** committed vs. delivered weapons (main weapon types)

Weapon type	Committed	Delivered	Not (yet) delivered
M130 105mm Infantry Gun	May 13	-	undisclosed
FH70 howitzer	May 9	undisclosed	-
Lince armored car	May 13	-	undisclosed
Stinger	Feb 28	undisclosed	-

Note: See Appendix II and our database (sheet “Main dataset”) for further details and sources.
The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

7. Delays in delivering military and financial aid

Most of the paper so far focuses on the *commitments* governments made to assist Ukraine. The previous section, however, showed that there is a considerable difference between committed and delivered aid. Here, we provide a more systematic overview and compare commitments with disbursements and deliveries for both military and financial aid. Taken together, we find considerable delays in the actual provision of assistance, especially for some donor countries.

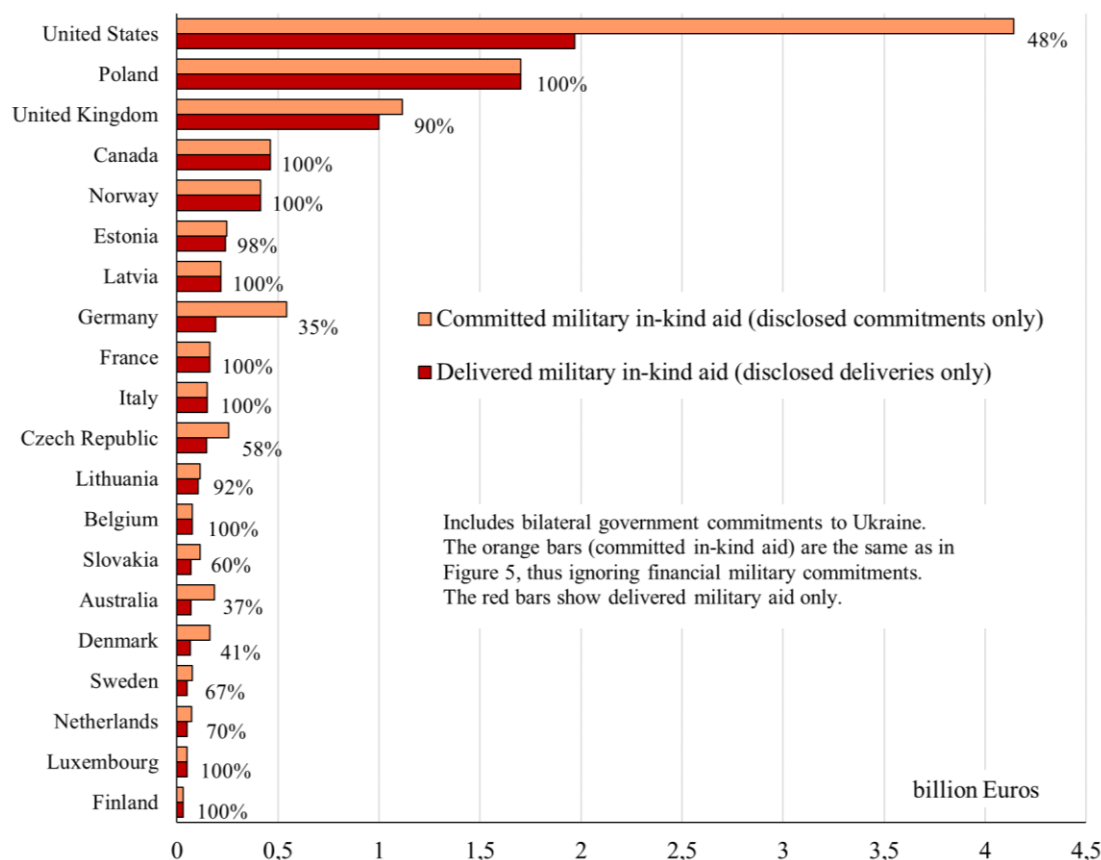
Delays in the delivery of military aid: We start with military aid, focusing on in-kind commitments and deliveries and thus excluding financial aid made for military purposes (this means we only consider the orange bars in Figure 5 above). Figure 7 compares military aid commitments and the corresponding deliveries for the top 20 military donors using data until June 7, 2022. For each country we show the share of delivered military aid, in percent of total committed military aid. The figure reveals a considerable gap between commitments and deliveries for some countries, notably Germany, the US and Greece. In total, the monetary value of in-kind military items sent by all countries amounts to €7.29 billion out of €10.61 that have been committed (a delivery share of 68.71%).

When ranking by actual deliveries, the United States remains the top provider of military assistance, but the gap between the United States and the other countries is far less pronounced than in previous graphs (e.g. Figure 1 or 5). Since February, the US has delivered dozens of howitzers and hundreds of armored vehicles (exact numbers were hard to come by³⁵), plus three combat helicopters, almost a thousand drones of the types Switchblade, Phoenix and Puma, plus thousands of Javelin missiles and Stinger anti-aircraft systems. Due to the lack of official statements on deliveries, we could not track the shipment of coastal vessels and counter-artillery and air-surveillance radars committed in April. In May, the United States also committed to send four HIMARS multiple rocket launchers, five additional Mi-17 helicopters, medium range missiles and a thousand of Javelin missiles, worth a total amount of \$700 million. These weapons have not yet been shipped to Ukraine.

Poland is again in second place, with deliveries worth €1.7 billion. Most recently, it delivered 18 AHS Krab howitzers, that were committed on May 29 and that have already been sent to Ukraine. Next comes the United Kingdom, which has delivered almost all of its military commitments, similar to Canada and Norway which rank 4th and 5th.

³⁵ To be more specific, the US committed, among other items, to deliver 108 M777 howitzers as well as 200 M113 armored personnel carriers. We can document only the partial delivery of both items. However, to avoid underestimating the true extent of deliveries we assume the delivery of the full amount for Figure 7.

Figure 7. In-kind military aid commitments and deliveries in € billion
(top 20 of 37 donor countries)
Disclosed bilateral commitments January 24 to June 7, 2022



Note: This figure shows a ranking of the top 20 donors (out of 37) that have committed military in-kind assistance to Ukraine between January 24 and June 7, 2022 (in billion Euros). The orange bars indicate the total value of in-kind military commitments, thus corresponding to the orange bars in Figure 5 above. The red bars show the value of delivered military items. The numbers for countries with incomplete information, such as Italy and Finland, should be taken with care. See the main text for details on data collection and sources.

The biggest outlier is Germany, which falls from 4th to 8th place when counting actual military deliveries rather than commitments. In recent weeks, Germany has newly committed a whole range of heavy weapons, including 7 Panzerhaubitze 2000, 4 Mars II multiple rocket launchers, 30 Gepard anti-aircraft armored vehicles, and an advanced IRIS-T air-defense system. But none of these heavy weapons have been delivered to Ukraine. In total, only about a third of Germany's committed military aid has been sent out (specifically, according to our data, Germany's in-kind military commitments amount to €542 million, while its deliveries amount to €192 million). The discrepancy between promises and deliveries is particularly large for Germany, pointing to long delivery delays.

Foreign budgetary support - commitments vs. disbursements: As a next step, we aim to shed light on delays in disbursing financial aid to Ukraine. For this purpose, we compared our data on financial commitments with data on the received budget financing during the war from the Ministry of Finance of Ukraine (2022). Their data includes information on the total value of budget financing received during the war through domestic government bonds, assistance from

international financial institutions (IFIs) and bilateral loans and grants between February 24 and June 7, 2022.³⁶

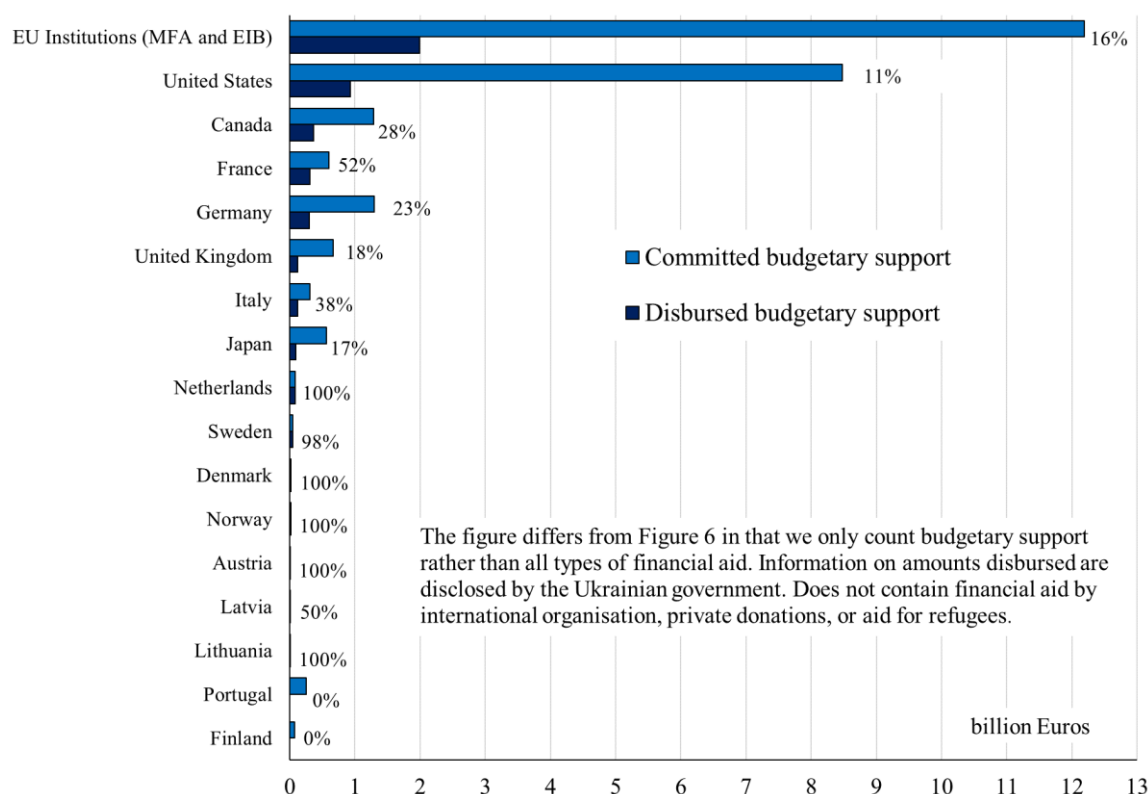
One challenge for this comparison lies in different categorizations of assistance. We categorize financial aid depending on whether it is intended for financial, humanitarian or military purposes. In contrast, the Ministry of Finance aims to measure any form of financial assistance for *budgetary support*. For an apples-to-apples comparison, we therefore reclassify our data on financial commitments so as to only consider commitments for budgetary support. For this purpose, we downloaded and coded all press releases issued by the Ukrainian Ministry of Finance and linked that information with our own loan-by-loan and grant-by-grant data. The following comparison between financial commitments and disbursements therefore refers only to the part of commitments that is budgetary support, resulting in different numbers than in previous graphs (e.g. Figure 2).

Figure 8 shows the result of our reclassification of financial aid to Ukraine. For each donor, we compare the amounts of budgetary support committed (light blue bars, from our reclassified data) to the amount disbursed (dark blue bars, from the Ukrainian Ministry of Finance).

As can be seen, the share of actually disbursed financial aid is surprisingly low. In total only 17% of the foreign budgetary support that has been promised to Ukraine had actually been disbursed by June 7, namely €4.41 billion disbursements out of a total committed sum of €25.96 billion. The gap between disbursement of commitments is large for all of the big donors. In absolute numbers it is largest for the EU Institutions (€1.99 billion disbursed out of €12.19 billion committed, a share of 16%), the United States (only €0.93 billion disbursed out of a total of €8.48 billion committed, a share of 11%), Canada (€0.37 billion disbursed out of €1.29 billion committed, a share of 28%), France (€0.31 billion disbursed out of € 0.6 billion committed, a share of 52%), Germany (€0.30 billion disbursed out of €1.3 billion committed, a share of 23%), and the United Kingdom (€0.12 billion disbursed out of €0.67 billion committed, a share of 18%).

³⁶ https://mof.gov.ua/en/news/ukraines_state_budget_financing_since_the_beginning_of_the_full-scale_war-3435.

Figure 8. Foreign budgetary support: commitments vs. disbursements in € billion
Bilateral commitments January 24 to June 7, 2022



Note: This figure shows a ranking of the 17 bilateral donors that have offered foreign budgetary support to Ukraine between January 24 and June 7, 2022 (bilateral disclosed financial commitments only, in billion Euros). The light blue bars indicate the total value of budget support commitments. The dark blue bars show the value of disbursed budget support. The data for disbursements comes from the Ministry of Finance of Ukraine (2022). See the main text for details on data collection and sources.

8. Support for Ukrainian Refugees abroad

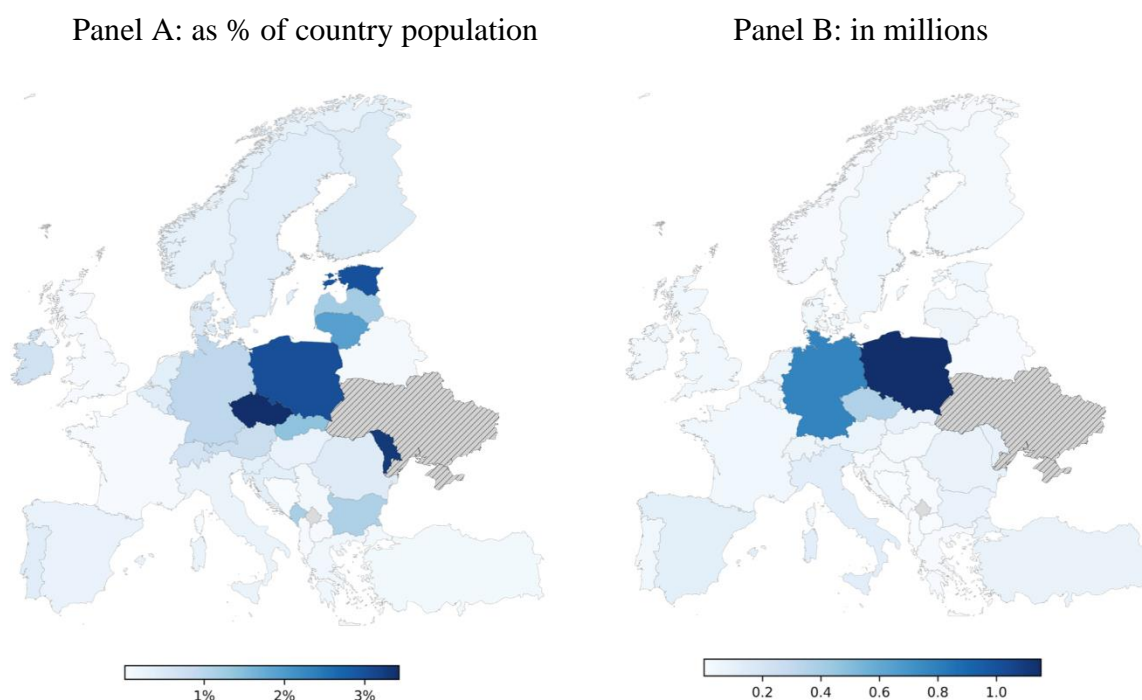
With over four million people fleeing Ukraine until June 7, 2022, the Russia-Ukraine war has caused the largest European refugee crisis since WWII (Harding 2022). The support of neighboring countries to welcome and host Ukrainian refugees is not to be underestimated, but quantifying and comparing the value of this support is hard.

A first challenge is the data on refugee numbers. The United Nations provides country-level estimates on the number of individual refugees from Ukraine recorded across Europe (UNHCR 2022a).³⁷ However, it provides data for flows until June 7 only for Ukraine's direct neighbors, meaning Poland, Romania, Moldova, Slovakia, Hungary, and Belarus. The data for the remaining countries is scattered in time, coming at the cost of less consistent estimates of total refugee costs together with free movement within the Schengen area and some refugees returning to Ukraine.

³⁷ In previous releases, we have used the number of *border crossings* from Ukraine to estimate the total cost of hosting refugees in Ukraine's *direct neighbor countries*. UNHCR (2022a) now also reports the (typically lower) number of recorded *individual refugees* for these countries, which we now use in this section.

In Figure 9, we show the distribution of Ukrainian refugees across Europe. The left panel shows the number of incoming Ukrainian refugees as a share of total population, while the right panel shows the number of refugees in millions. In absolute numbers, Poland clearly ranks first among European countries, being the only country hosting over one million Ukrainian refugees. Germany follows in 2nd place with 780,000 refugees, while the Czech Republic (366,632), Italy (125,907) and Spain (118,199) are in 3rd, 4th, and 5th place respectively. When taking into account the population size in each welcoming country, the Czech Republic tops the list (with a share of 3.43%), Moldova comes 2nd (3.29%), followed by Poland (3.04%) and Estonia (2.99%). Taken together, Eastern European countries tend to stand out in terms of incoming refugees.

Figure 9. Individual refugees from Ukraine recorded across Europe until June 7, 2022



Note: This figure shows the number of incoming individual Ukrainian refugees by country (right panel) and the corresponding population share in welcoming countries (left panel) between February 24 and June 7, 2022. The data comes from UNHCR (2022a).

An even greater challenge is to calculate the actual costs incurred by governments. To our knowledge, there is no internationally comparable database or reliable estimates on the cost of hosting refugees, e.g., for schooling, medical expenses or social transfers, especially not for Eastern European countries. Some numbers exist from previous refugee crises, mostly from high income countries in Western Europe. Darvas (2022), for example, explains that annual refugee costs range between €9,000 and €25,000 (converted to 2022 prices), which translates into monthly costs between €750 and €2,083 (see also Ruist 2016 for the case of Sweden). Indeed, the variation across countries is large. Pisani-Ferry (2022) estimates annual refugee costs of €13,500 based on budgetary expenses in Germany for (mostly Afghan and Syrian) refugees in 2016. According to the European Commission (2016), annual refugee costs (converted to 2022 prices) correspond to €20,700 in Sweden, €16,400 in Austria, €15,900 in Germany, €15,100 in Finland, €15,200 in Belgium, €22,500 for the Netherlands and €9,400 for

Greece. Finally, the OECD (2015) suggests that the cost of processing and accommodating asylum seekers can range between €8,000 and €12,000 (2015 prices).

These existing estimates are of limited use in the context of the Ukraine-Russia war, for several reasons. First, most Ukrainian refugees are hosted by Eastern European countries, which have lower average incomes and lower average expenses for social security compared to Western European countries. The government expenses for refugees in Lithuania or Romania is likely to be significantly lower than in Sweden or the Netherlands. Second, Ukrainian refugees differ from the average asylum seeker in Western Europe. They reportedly have a high level of education and skills and partly continue to work for their Ukrainian employers remotely (Hofmann 2022). Third, the refugees often have savings and assets and therefore do not apply for state support (Pandey 2022). Fourth, there is anecdotal evidence that a considerable part of the help for Ukrainian refugees in countries like Poland has been in-kind and incurred by private households rather than by the government (Duszczuk 2022). It therefore does not seem adequate to use monthly government costs of up to €2000 per person, but there are no good alternative estimates either.

Given these limitations, we had originally opted not to include estimates on refugee costs in the first versions of this paper and dataset. Indeed, conceptually, our database focuses on support flowing *into* Ukraine, which naturally does not include refugee hosting costs outside of Ukraine. To nevertheless get a rough idea of the scale of support of hosting Ukrainian refugees, we however decided to provide back-of-the-envelope estimates on government costs starting with the third release of the database. In this fourth release, we estimate refugee costs between February 24 and June 7, 2022, and then combine these rough estimates with our data on bilateral commitments to Ukraine.

As a *baseline*, we assume government costs of €500 for hosting one Ukrainian refugee per month. To reiterate, this number is not backed by reliable data or evidence. Instead, we chose this number ad hoc, largely based on anecdotal evidence. For example, the government of Latvia explains that official transfers to refugees range between a minimum of €266 and a maximum of €881 per month (Republic of Latvia 2022).³⁸ Our ad hoc assumption of €500 per person and month lies roughly between these two bounds. Similarly, the government of Poland, announced monthly support transfers per refugee ranging between PLN 647 and 1,376 per month (equivalent to €140 and €300) and this does not include potential medical costs or school costs.³⁹ All included, the maximum monthly *in-cash* allowance given by Poland to Ukrainian refugees corresponds to around €570 according to UNHCR (2022b).

We also compute costs using an *upper and lower bound* of monthly government expenses per refugee. For this purpose, we choose €250 and €750, respectively, again pretty much ad hoc. The lower bound is close to the size of potential cash transfer offered to refugees in Poland and also to the minimum income currently offered to refugees by Latvia. The upper bound is close

³⁸ The minimum is calculated based on the guaranteed minimum income per person, e.g. contributions to a child or to another dependent family member. The maximum captures the contribution given to an adult willing to work and requesting a start-up employment allowance.

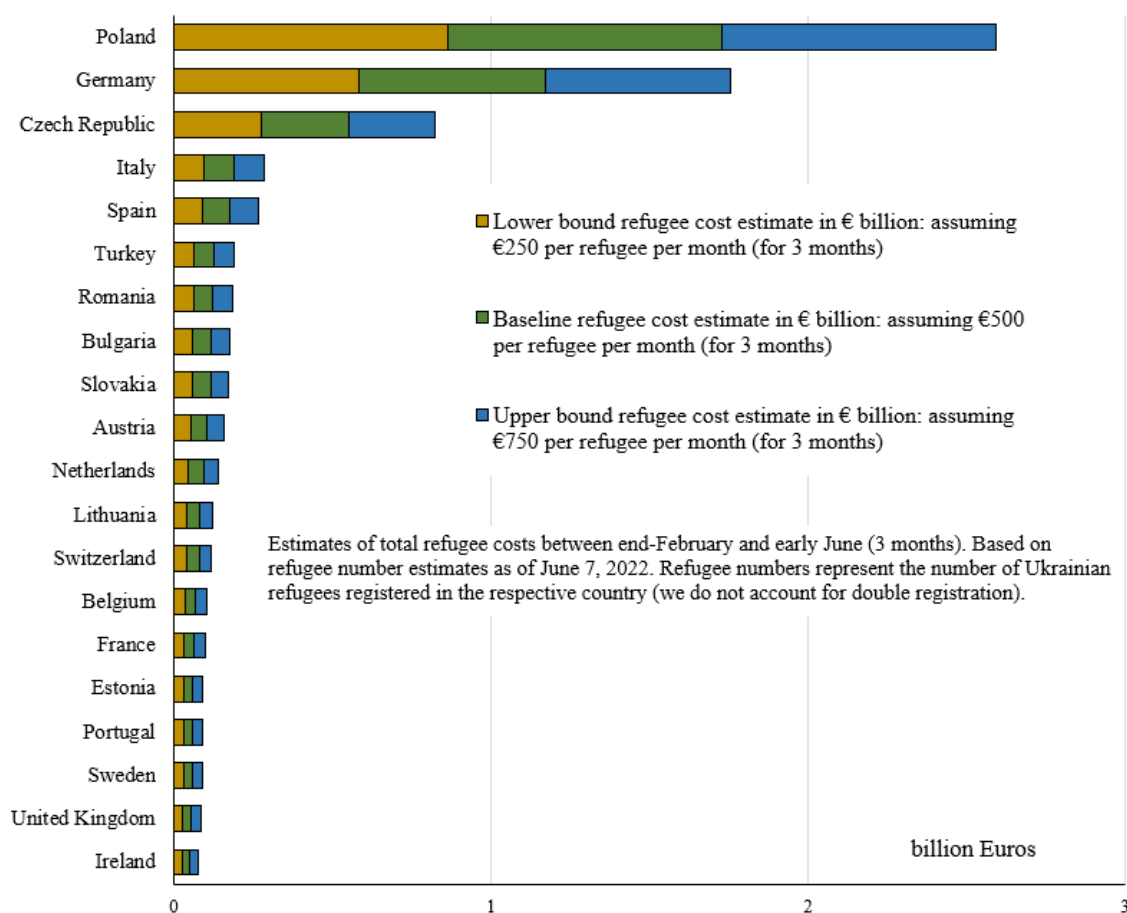
³⁹ See <https://www.gov.pl/web/family/social-assistance-for-foreigners-what-kind-of-support-in-poland-can-they-expect>.

to Latvia's maximum transfer and corresponds to the lower bound reported for high income countries by the OECD (2015), the European Commission (2016) and Darvas (2022).

This said, the upper bound of €750 per person/month seems high, not least because the EU has announced large financial transfers for countries hosting Ukrainian refugees. Specifically, on April 4, 2022, the Council of the European Union adopted the Cohesion's Actions for Refugees in Europe (CARE) and also amended the use of 2014-2020 home affairs funds and of the 2021-2027 Asylum, Migration and Integration Fund. Among other aspects, the legislation allows EU members to use up to €9.5 billion under the 2022 tranche of REACT-EU (an EU public investment program in response to the Covid-19 pandemic) for refugee expenses. Effectively, these decisions release more than €17 billion for EU countries to reimburse them for the costs of welcoming and accommodating Ukrainian refugees (European Council 2022c).

With all these caveats in mind, we create Figure 10, which shows our rough cost estimates across countries between February 24 and June 7, using estimates of €250, €500, and €750 for *monthly* refugee cost, respectively. The total refugee cost is computed based on the number of Ukrainian refugees in each country (as of June 7) times 3, which is the number of months since the beginning of the war until June 7. As one can see from the figure, the country estimated to incur by far the highest cost is Poland (€1.73 billion at the baseline cost of €500 per person/month), followed by Germany (€1.17 billion) Czech Republic (€550 million) and Italy (€189 million).

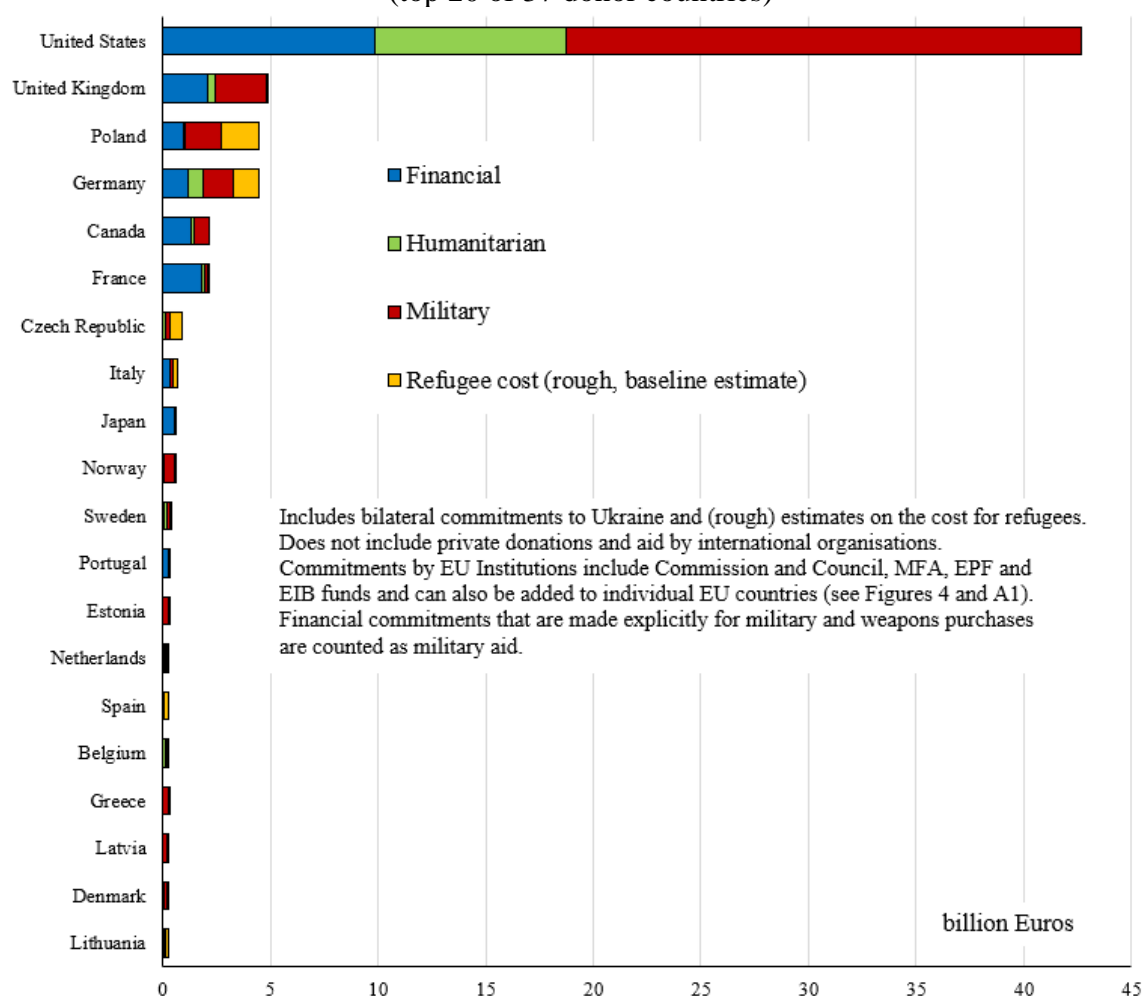
Figure 10. Rough cost estimates for hosting Ukrainian refugees in billion Euros
(top 20 of 37 countries)



Note: This figure shows the total costs paid by each country for welcoming refugees until June 7, 2022. The total cost has been computed by using country-level data provided by UNHCR (2022a) on Ukrainian refugees, along with three different estimates for monthly refugee cost (€250, €500, and €750). See the main text for details.

We next add the estimated refugee costs to other types of support from Figure 2, using the baseline assumption of €500 per refugee and month. The resulting country ranking is shown in Figure 11, with limited changes compared to the main Figure 2 above. The United States remains in first place (€42.67 billion), still followed by the United Kingdom with €4.90 billion, Poland (€4.48 billion) and Germany (€4.46 billion). Notably, the Czech Republic now moves up to 7th place, with overall aid equal to €909 million, of which €550 million are our (roughly estimated) costs for hosting refugees.

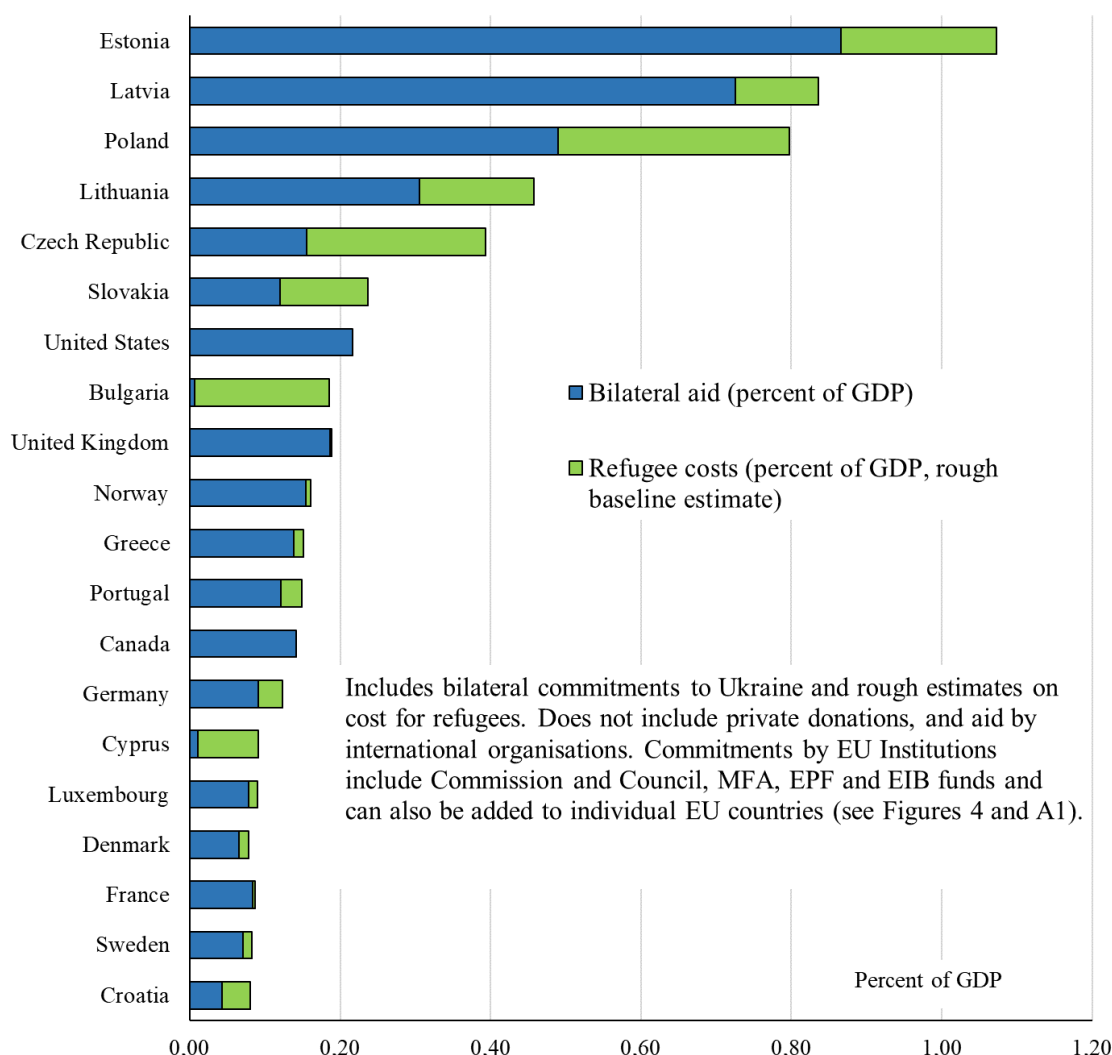
Figure 11. Adding bilateral aid and rough refugee cost estimate
(top 20 of 37 donor countries)



Note: This figure shows aid to Ukraine and incoming Ukrainian refugees until June 7, 2022. Each bar besides illustrates the type of assistance, meaning financial assistance (loans, grants, guarantees, and swap lines), humanitarian aid (assistance directed to the civilian population including food and medical items), and military assistance (arms, equipment, and utilities provided to the Ukrainian military). Military aid includes direct financial assistance that is tied to military purposes. Assistance to refugees is estimated with country-level data provided by UNHCR (2022a), and an estimate of the monthly cost per refugee of €500 (see main text).

Finally, we show Figure 12 which includes estimated refugee costs and shows the ranking as percent of each country's GDP. The ranking does again not change much when compared to Figure 3, with the most notable change being Bulgaria.

Figure 12. Government support including estimated refugee costs - percent of donor GDP (top 20 of 37 donor countries)



Note: This figure shows the bilateral aid committed to Ukraine and the assistance provided to Ukrainian refugees until June 7, 2022, all in percent of the donor country's GDP. Assistance to refugees is estimated with country-level data provided by UNHCR (2022a), and an estimate of the monthly cost per refugee of €500. The data on GDP (current US\$) is for 2020 and is taken from the World Bank. See the main text for details on data collection and sources.

9. Concluding Remarks

This paper introduces and updates the “Ukraine Support Tracker”, which provides a comprehensive picture of the assistance offered by Western donors to Ukraine since the escalation of the conflict between Russia and Ukraine on January 24 2022, and up until June 7, 2022. Our dataset tracks more than €85 billion of financial, humanitarian, and military aid committed to Ukraine since January 24, 2022. In the coming weeks, we plan to continuously improve and expand the database and this working paper. For this purpose, we very much welcome comments and suggestions to ukrainetracker@ifw-kiel.de.

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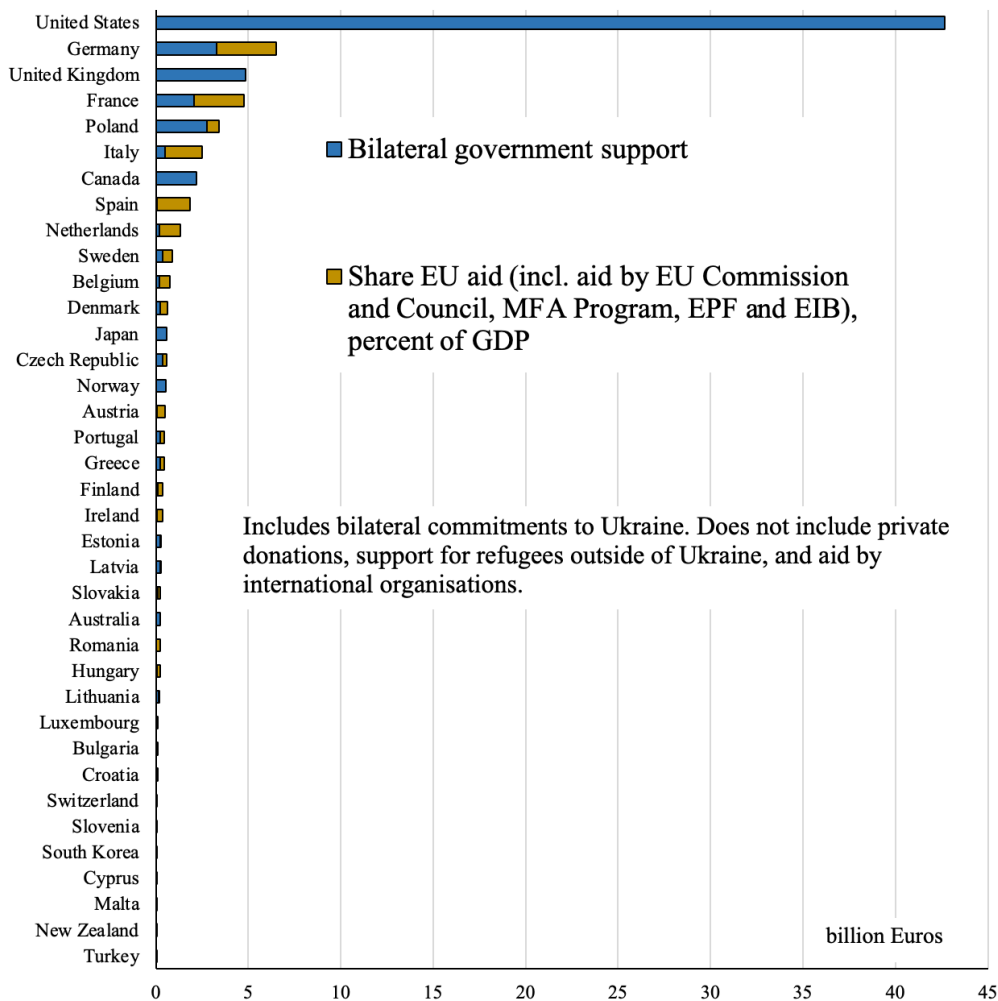
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Appendix I: Additional Figures

Bilateral aid to Ukraine including EU shares (in billion euros)

In Figure A1, we take into account assistance provided through the EU's institutions and financing vehicles since January 24, 2022, *in billions of euros*. EU assistance includes the aid of the European Commission and Council, the Macro-Financial Assistance (MFA) program, the European Peace Facility (EPF) and the European Investment Bank (EIB). The figure complements Figure 4 in the main text, which shows total (bilateral + EU) commitments as share of donor country GDP. As above, the blue bar segments illustrate bilateral aid (see Figure 2), followed by each country's share in EU-level commitments (brown segments).⁴⁰

Figure A1. Government support to Ukraine including EU shares in € billion
Commitments January 24 to June 7, 2022



Note: This figure shows a ranking of bilateral commitments after accounting for EU-level aid and financing vehicles (in billion Euros). We assign EU-level commitments as follows: EU commitments (European Peace Facility, Macro-Financial Assistance, humanitarian aid) are allotted based on each member country's relative contribution to the EU budget. Similarly, we assign EIB commitments using each country weight in the EIB's capital subscription shares. See Figure 4 in the main text for a ranking of total (bilateral + EU) assistance in terms of country GDP. Please refer to the main text for details on data collection and sources.

⁴⁰ See Section 5 for details on how we assign EU commitments to individual countries.

Overall, the US remains the largest individual donor (€42.67 billion), but European countries see a significant increase in contributions, partly because it is possible that we now double count entries in case of weapon deliveries that are reimbursed through non-transparent schemes like the EPF. This is why this graph should be taken with care and is only shown in the appendix. Germany is now in 2nd place (€6.50 billion), followed by the UK (€4.84 billion), France (€4.76 billion), Poland (€3.40 billion) and Italy (€2.53 billion). Moreover, Spain considerably moves up the ranking when taking into account its EU contributions, from 24th to 8th place.

“Stand Up for Ukraine” event

Figure A2 shows the pledges during the “Stand Up for Ukraine” event across countries (see Section 3.3 in the main text). The figure distinguishes between donations *to Ukraine* and assistance to countries other than Ukraine, including self-pledges by governments to their own budget (primarily aimed at supporting Ukrainian refugee inflows). Of the 13 countries shown in the figure, only Belgium, Germany, and Ireland committed direct assistance to Ukraine during this event. Moreover, the European Commission offered assistance to Ukraine (€600 million) as well as to other countries (€400 million), while the European Investment Bank (EIB) tops the list with a total commitment of €4 billion to countries other than Ukraine.

Figure A2. Country pledges during the “Stand up for Ukraine” event



Note: This figure shows the country pledges during the “Stand up for Ukraine” event that took place on April 9, 2022, in Warsaw. The pledges are separated into assistance to Ukraine (for internally displayed civilians; brown) and to other countries (for refugees outside Ukraine; green).

Appendix II: Deliveries of main weapons

This appendix provides an overview of the delivered main weapons *by weapon type*. In Section 6 in the main text, we offer an equivalent overview *across donor countries*. Finally, we document the sources reporting the weapon deliveries to Ukraine included in this paper.

Delivery of Main Weapons by type:

Table A1. **Artillery (howitzers):** commitments vs. deliveries
Bilateral commitments and deliveries between January 24 and June 7, 2022

Weapon type	Country	Committed	Delivered	Not (yet) delivered
<i>155mm NATO artillery</i>				
AHS Krab self-propelled howitzer	Poland	May 29	18	-
M777 howitzer	Canada	Apr 22	4	-
	Australia	Apr 28	6	-
	United States	Apr 13	108 (partially)	-
M130 105mm Infantry Gun	Italy	May 13	-	undisclosed
M114 155mm howitzer	Portugal	May 8	5	-
CAESAR howitzer	France	Apr 23	12	-
FH70 howitzer	Italy	May 9	undisclosed	-
	Norway	June 7	22	-
Panzerhaubitze 2000	Germany	May 4	Training has started on May 17	7
	Netherlands	Apr 19	-	5
<i>Intermediate sum</i>			<i>up to 175 units</i>	<i>12 units at least</i>
<i>Soviet-type artillery</i>				
DANA howitzer	Czech Republic	April	20	-
D-30 122 mm howitzer	Estonia	February	at least 9	-
<i>Intermediate sum</i>			<i>29 units at least</i>	-
<i>Mortars</i>				
M10 mortar	Denmark	Apr 21	-	undisclosed
Mortar	Lithuania	Apr 21	undisclosed	-
LMP-2017 60mm mortar	Poland	until April 5	100	-
<i>Intermediate sum</i>			<i>100 units at least</i>	<i>undisclosed</i>
Total sum			304	12 units at least

Note: See below and our database (sheet “Main dataset”) for further details and sources.

The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table A2. **Multiple rocket launchers:** commitments vs. deliveries
Bilateral commitments and deliveries between January 24 and June 7, 2022

Weapon type	Country	Committed	Delivered	Not (yet) delivered
RM-70	Czech Republic	Apr 22	20	-
Mars II	Germany	June 1	-	4
M270 weapon system	United Kingdom	June 6	-	undisclosed
HIMARS 142	United States	June 1	-	4
Total sum			20	8 units at least

Note: See below and our database (sheet “Main dataset”) for further details and sources.

The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table A3. **Armored vehicles:** commitments vs. deliveries
Bilateral commitments and deliveries between January 24 and June 7, 2022

Weapon type	Country	Committed	Delivered	Not (yet) delivered
<i>Western models: M113 TM, M113 YPR-765, Bushmaster, Mastiff</i>				
Mastiff (6x6) protected patrol vehicle	United Kingdom	Apr 09	120	-
M113 armored personnel carrier	United States	Apr 13	200 (partially delivered)	-
	Denmark	Apr 21	-	50
	Australia	May 19	-	14
	Portugal	May 8	-	15
	Lithuania	May 25	20	-
YPR-765 infantry vehicle	Netherlands	Apr 19	undisclosed	-
Bushmaster protected mobility vehicle	Australia	April 21 / May 19	20	20
<i>Intermediate sum</i>			360	99
<i>Other Armored Vehicles</i>				
Humvee Multipurpose Vehicle	United States	Apr 13	100	-
Tactical vehicles	United States	Apr 21	-	72
VAMTAC (4x4) lightly armored vehicle	Spain	Apr 21	20	-
Roshel Senator (4x4) armored personnel carrier	Canada	Apr 22	8	-
Undisclosed type of armored vehicle	Germany	until April 19	14	-
	Lithuania	May 25	-	10
Mambas (4x4) armored vehicle	Estonia	until May 6	undisclosed	-
Lince armored car	Italy	May 13	-	undisclosed
Off-road vehicle for demining operations	Lithuania	May 25	-	10
BVP-1 infantry fighting vehicle	Czech Republic	Apr 05	5	-
BMP-1 infantry fighting vehicle	Greece	May 26	-	122
Stromer armored vehicle	United Kingdom	May 19	undisclosed	-
Iveco M 20.12 WM/P (4x4) armored vehicle	Portugal	Apr 30	-	4
<i>Intermediate sum</i>			147	218
Total sum			507	317

Note: See below and our database (sheet “Main dataset”) for further details and sources.

The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table A4. **Tanks:** commitments vs. deliveries
Bilateral commitments and deliveries between January 24 and June 7, 2022

Weapon type	Country	Committed	Delivered	Not (yet) delivered
<i>Soviet-type tanks</i>				
T-72 tank	Poland	until May 5	240	-
	Czech Republic	Apr 05	12	8
<i>Intermediate sum</i>			252	8
<i>NATO-type tanks</i>				
Gepard anti-aircraft armored vehicle	Germany	Apr 26	-	30
Leopard 2A4	Spain	June 5	-	10
<i>Intermediate sum</i>			-	40
Total sum			252	48

Note: See below and our database (sheet “Main dataset”) for further details and sources.

The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table A5. **Air-defense systems:** commitments vs. deliveries
Bilateral commitments and deliveries between January 24 and June 7, 2022

Weapon type	Country	Committed	Delivered	Not (yet) delivered
S-300	Slovakia	Apr 08	1	-
IRIS-T SLM	Germany	June 1	-	1
Total sum			1	1

Note: See below and our database (sheet “Main dataset”) for further details and sources.

The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table A6. **Coastal defense systems:** commitments vs. deliveries
Bilateral commitments and deliveries between January 24 and June 7, 2022

Weapon type	Country	Committed	Delivered	Not (yet) delivered
Harpoon anti-ship missile system	Denmark	May 23	1	-
Total sum			1	1

Note: See below and our database (sheet “Main dataset”) for further details and sources.

The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table A7. **Man-portable air-defense and anti-tank systems:** commitments vs. deliveries
Bilateral commitments and deliveries between January 24 and June 7, 2022

Weapon type	Country	Committed	Delivered	Not (yet) delivered
<i>MANPADS and anti-tank guided missile systems</i>				
Piorun	Poland	until May 5	undisclosed	-
Starstreak	United Kingdom	March 9	undisclosed	-
Mistral	Norway	Apr 20	100	-
Stinger	United States		800	-
	Germany	until April 19	500	-
	Netherlands	February 26	250	-
	Italy	February 28	undisclosed	-
	Latvia	until April 6	undisclosed	-
	Lithuania	March 16	undisclosed	-
	Denmark	Apr 22	300	-
	Greece	May 26		60
Brimstone-1 missile	United Kingdom	May 3	200	undisclosed
Shoulder fired MANPAD	Czech Republic	February 27	160	-
<i>Intermediate sum</i>			<i>2,310</i>	<i>60</i>
<i>Other missile systems</i>				
M72 rocket launcher	Canada	February 27	4,500	-
	Belgium	February 27	200	-
	Denmark	Apr 21	2,700	-
	Norway	February 28/ March 31	4,000	-
Carl-Gustav M2 recoilles rifle	Canada	February 27	100	-
Strela	Germany	until April 19	2,000	-
Panzerfaust 3	Germany	until April 19	900	-
	Netherlands	February 26	50	-
AT4 anti-tank		until March 23 / June 2		
	Sweden		10,000	5,000
NLAW anti-tank	Luxembourg	February 28	100	-
	United Kingdom	March 9 / April 8 March 15 / May	3,965	-
RPG-18 anti-tank	Greece	26	815	1,100
grenade launcher	Spain	March 2	1,370	-
	United States	March 16	100	-
Javelin	Estonia	until June 6	undisclosed	-
	Poland	until May 4	undisclosed	-
	United States	March 16	2,000	

Javelin command launch	United States	June 1	-	50
<i>Intermediate sum</i>			32,800	6,150
Total sum			35,110	6,210

Note: See below and our database (sheet “Main dataset”) for further details and sources.

The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table A8. Aircraft: commitments vs. deliveries
Bilateral commitments and deliveries between January 24 and June 7, 2022

Weapon type	Country	Committed	Delivered	Not (yet) delivered
Mi-24 attack helicopter	Czech Republic	May 23	-	7
Mi-17 military helicopter	United States	Apr 13	3	8
		June 1	-	4
Unspecified type of helicopter	Latvia	Apr 06	undisclosed	-
Total sum			at least 3	19

Note: See below and our database (sheet “Main dataset”) for further details and sources.

The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Table A9. Unmanned aerial systems: commitments vs. deliveries
Bilateral commitments and deliveries between January 24 and June 7, 2022

Weapon type	Country	Committed	Delivered	Not (yet) delivered
<i>Combat drones</i>				
Bayraktar TB2	Turkey	prior to Feb 24	undisclosed	-
<i>Other drones</i>				
FlyEye	Poland	prior to Feb 24	undisclosed	-
Warmate	Poland	prior to Feb 24	undisclosed	-
Switchblade	United States	Apr 13	700 (partially delivered)	-
Phoenix Ghost	United States	Apr 21	121 (partially delivered)	-
Puma	United States	Apr 01	undisclosed	-
Skywatch	Denmark	Apr 22	25	-
Heavy transport drone	United Kingdom	May 5	dozens	-
Unspecified type of drone	Estonia	until June 7	undisclosed	-
Total sum			846	undisclosed

Note: See below and our database (sheet “Main dataset”) for further details and sources.

The table shows bilateral commitments and deliveries between January 24 and June 7, 2022.

Sources for the delivery of main weapons - ordered by type of main weapon:

Artillery (howitzers):

- <https://mezha.media/en/2022/04/15/new-weapon-deliveries-from-the-czech-republic-dana-self-propelled-artillery-and-rm-70-multiple-rocket-launcher/>
- <https://mil.in.ua/en/news/officially-estonia-has-sent-122-mm-howitzers-to-ukraine/>
- <https://www.cbc.ca/news/politics/ukraine-m777-howitzer-russia-heavy-artillery-1.6427762>
- <https://news.defence.gov.au/international/working-together-ukraine>
- <https://www.aa.com.tr/en/americas/us-says-vast-majority-of-howitzers-has-arrived-in-ukraine/2581253>
- <https://www.strategypage.com/htmw/htart/articles/20220502.aspx>
- <https://geopolitiki.com/italian-fh70-howitzers-ukraine-against-russians/>
- https://www-regjeringen-no.translate.goog/no/aktuelt/norge-har-donert-artilleriskyts-til-ukraina/id2917760/?x_tr_sl=auto&x_tr_tl=auto&x_tr_hl=de
- <https://www.deutschlandfunk.de/ausbildung-ukrainischer-soldaten-hat-begonnen-100.html>
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- <https://radio.lublin.pl/2022/05/polskie-nowoczesne-armatohaubice-krab-dla-ukrainskiej-armii/>
- <https://www.thedefensepost.com/2022/04/19/us-arms-arrive-ukraine/>
- <https://www.aa.com.tr/en/americas/us-says-vast-majority-of-howitzers-has-arrived-in-ukraine/2581253>
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- <https://www.thenationalherald.com/russias-ukraine-invasion-sees-greece-taking-bigger-nato-role/#:~:text=Greece%20sent%20Ukraine%20military%20equipment%20compatible%20with%20that,rocket%20launchers%2C%20aligning%20itself%20with%20NATO%E2%80%99s%20indirect%20assistance.?msclkid=6dac7726ab8911ec980d9386f90d3180>

Armored vehicles:

- <https://www.bbc.com/news/world-europe-61482305>
- <https://www.thedefensepost.com/2022/04/19/us-arms-arrive-ukraine/>
- <https://news.defence.gov.au/international/working-together-ukraine>
- https://www.armyrecognition.com/defense_news_may_2022_global_security_army_industry/australia_announces_delivery_of_14_m113_tracked_apcs_and_20_bushmaster_armored_vehicles_to_ukraine.html
- <https://www.ukrinform.net/rubric-defense/3463928-spain-sends-new-military-aid-batch-to-ukraine.html>
- <https://mil.in.ua/en/news/ukraine-received-senator-apc-armored-vehicles/>
- <https://www.spiegel.de/politik/deutschland/ukraine-krieg-deutschland-lieferte-waffen-fuer-37-millionen-euro-a-460a7b35-70aa-40bb-8ec7-80f5606f0d5a>

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- <https://www.wsj.com/livecoverage/russia-ukraine-latest-news-2022-04-29/card/poland-has-sent-more-than-200-tanks-to-ukraine-Krwar3DCPzHJJk4UMVh4>
- <https://kafkadesk.org/2022/04/06/czech-republic-becomes-first-country-to-send-tanks-to-ukraine/>
- <https://www.thedefensepost.com/2022/04/19/us-arms-arrive-ukraine/>

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- <https://twitter.com/UAWeapons/status/1530575142115495937>
- <https://defence-blog.com/dutch-ypr-765-infantry-vehicles-arrived-in-ukraine/>
- <https://www.reuters.com/world/europe/czech-republic-sends-tanks-ukraine-czech-tv-reports-2022-04-05/>
- <https://www.businessinsider.de/politik/deutschland/software-probleme-aerger-mit-griechenland-lange-lieferzeiten-wie-schwierig-es-um-die-versprochenen-schweren-waffen-aus-deutschland-steht-b/>

Air-defense systems:

- <https://www.nytimes.com/2022/04/14/world/europe/ukraine-russia-nato-s300.html>

Coastal defense systems:

- <https://www.reuters.com/world/europe/ukraine-receives-harpoon-missiles-howitzers-says-defence-minister-2022-05-28/>
- <https://www.reuters.com/world/europe/ukraine-receives-harpoon-missiles-howitzers-says-defence-minister-2022-05-28/>

Man-portable air-defense and anti-tank systems:

- <https://rmx.news/poland/polish-army-to-order-additional-piorun-anti-air-missiles-after-the-weapon-outperforms-on-ukrainian-battlefield/>
- <https://eurasianimes.com/from-britain-with-love-uks-new-game-changing-missiles-to-ukraine-has-potential-to-turn-tables-on-belligerent-russia/>
- <https://techartica.com/this-is-the-first-view-of-the-mistral-antiaircraft-system-in-ukraine-it-shows-how-civilian-cars-are-used-at-war-front/>
- <https://www.n-tv.de/politik/Deutsche-Waffenlieferungen-an-die-Ukraine-Nicht-alle-Exporte-werden-erfasst-article23304309.html>
- <https://english.defensie.nl/latest/news/2022/04/06/a-look-at-the-defence-news-28-march---3-april>
- https://www.repubblica.it/esteri/2022/04/28/news/guerra_russia_ucraina_armi_italiane-347273567/
- https://twitter.com/edgarsrinkevics/status/1511694357560180745?ref_src=twsrc%5Etfw%7Ctwcamp%5Etweetembed%7Ctwterm%5E1511694357560180745%7Ctwgr%5E%7Ctwcon%5Es1_&ref_url=https%3A%2F%2Fwww.redditmedia.com%2Fmediaembed%2Ftxqhaq%3Fresponsive%3Dtrueis_nightmode%3Dfalse
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- <https://www.npr.org/2022/05/03/1096398193/retired-colonel-on-the-rise-of-javelin-missiles-as-biden-seeks-to-aid-ukraine>

Aircraft:

- <https://defence-blog.com/ukraine-receives-first-mi-17-helicopters-from-us/>
- https://twitter.com/edgarsrinkevics/status/1511694357560180745?ref_src=twsrc%5Etfw%7Ctwcamp%5Etweetembed%7Ctwterm%5E1511694357560180745%7Ctwgr%5E%7Ctwcon%5Es1_&ref_url=https%3A%2F%2Fwww.redditmedia.com%2Fmediaembed%2Ftxqhaq%3Fresponsive%3Dtrueis_nightmode%3Dfalse

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- <https://radar.rp.pl/przemysl-obronny/art35751811-pioruny-drony-i-amunicja-polskie-uzbrojenie-w-drodze-na-ukraine>
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- <https://defence-blog.com/ukraine-receives-rq-20-unarmed-aerial-vehicles-donated-by-us/>
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- <https://www.ukrinform.net/rubric-politics/3501933-estonia-has-provided-240m-in-military-aid-to-ukraine-koriniyenko.html>
- <https://defensereview.com/aevex-aerospace-phoenix-ghost-secretive-suicide-kamikaze-drone-aircraft-being-shipped-to-ukraine-to-help-fight-the-russians/>
- <https://twitter.com/UAWeapons/status/1531282230760378369>