

ISODARCO

International School on Disarmament and Research on Conflicts

Founded in 1966 - Italian Pugwash Group



European Security after Ukraine

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Technology, War, and Nuclear Stability in an Age of Conflict

- Europe – Western Europe in the cold war, the European Union + some NATO only states today
- Military security with respect to military threats
- Europe has had only one possible military threat since the end of World War 2: Russia
- 1945-1990: USSR and Warsaw Pact
- 1990-2014: Russia no adversary
- 2014-today: Russia as adversary

- I put aside Russian intentions here
- I'll try to measure Europe's military security relative to Russian **conventional** military capabilities and the Russian economy which is behind them
- I'll use the 5 major weapon systems counted in the Conventional Forces in Europe (CFE) Treaty of 1990

- Main battle tanks
- Armored combat vehicles (armored personnel carriers, armored infantry fighting vehicles)
- Artillery pieces (of 100mm caliber and above)
- Combat aircraft (air superiority fighters, fighter-bombers, tactical air support fighters)
- Attack helicopters
- **Source:** *The Military Balance* of the International Institute of Strategic Studies (IISS), 2021 and 2024 editions

Country	MBTs	ACVs	Artillery	Combat Aircraft	Attack Helicopters
NATO Europe	7486	25873	10511	2404	430
Canada	82	993	187	101	0
USA	2509	15948	5951	3448	867
Ucraina	2119	1986	1964	125	35
Bielorussia	537	990	333	93	12
Russia	2840	13758	8015	1021	902

Source: The International Institute for Strategic Studies, The Military Balance **2021**

Country	MBTs	ACVs	Artillery	Combat Aircraft	Attack Helicopters
NATO Europe	6872	26740	11236	2301	411
Canada	74	993	183	108	0
USA	2640	15679	4891	3211	905
Ukraine	937	2815	1639	78	45
Belarus	497	1077	803	63	11
Russia	2000	10820	3992	1086	766

Source: The International Institute for Strategic Studies, The Military Balance **2024**

- In both 2020 and 2023, even considering only NATO Europe – i.e. *excluding Canada and the United States* - Russian force numbers appear to be clearly inferior
- In 2020, Russia had roughly *one third* of the main battle tanks, about *half* of the armored combat vehicles, *four fifths* of the artillery pieces and *40 percent* of the combat aircraft of NATO Europe's. But it had *twice* as many attack helicopters as NATO Europe's
- In 2023, NATO Europe has slightly less of everything (except ACVs and artillery pieces), Russia substantially less of everything, especially as far as artillery is concerned

- Heavy drawdown of Russian MBT, ACV and Artillery pieces in store to replace losses
- 2020: 10,200 MBT, 14,500 ACV, 22,485 artillery pieces
- 2023: 4,000 MBT, 5,100 ACV, 14,110 artillery pieces
- According to Oryx, Russian losses in Ukraine as of Mid-November 2024:
 - 3,588 MBTs
 - 6,074 ACVs
 - 1,705 artillery pieces
 - 132 aircraft (including some transport and strategic bomber aircraft)
 - 147 helicopters (including 38 transport helicopters)

Compare with 2020 table. Russia lost:

- entire MBT fleet *plus* 25%
- almost half (44%) ACVs,
- 20% artillery pieces
- 12% combat aircraft
- 12% attack helicopters

According to Oryx, NATO equipment lost in Ukraine as of mid-November 2024:

- 65 MBTs
- 598 ACVs
- 272 artillery pieces
- 8 aircraft (1 F-16 and 7 L-39 trainers)
- 1 transport helicopter

- As for the quality, the superiority of NATO weaponry is well known and undisputed
- NATO's advantages in naval forces are glaring and also undisputed
- Russian Navy is bottled in the Black and North Sea, whose accesses are under total NATO control
- According to Oryx, Ukraine (no Navy of its own) managed to destroy (21) or damage (7) Russian naval vessels in the Black Sea, including the flagship cruiser Moskva, three corvettes, one Kilo class submarine, four landing ships

- In sum, Russia has had in Ukraine big losses of key weapon systems, replaced by obsolete refurbished materiel long kept in storage, much less by new stuff, in a proportion of about three to one
- Russia will need at least the rest of the present decade to go back to weapon holdings levels ante-invasion of Ukraine (Massicot)

- NATO conventional superiority used to be taken for granted
- Russia keeps thousands of short range tactical nuclear weapons to offset NATO conventional superiority (Kristensen)
- Chief of the British Defense Staff, Admiral Sir Tony Radakin (February 2024): “The biggest reason that Putin doesn’t want a conflict with NATO is because Russia will lose. And lose quickly”

- In October 2024, according to U.S. assessments, Russian casualties in the war in Ukraine numbered 615,000 - 115,000 killed and 500,000 wounded
- By collecting public information such as obituaries, cemetery burials and the public notary database, a journalist in Russia, Olga Ivshina of the BBC, estimated 484,000 irreplaceable Russian losses up to October 2024. Irreplaceable means soldiers who are dead or so seriously injured that they will never see battle again
- It is about half of Russia's active personnel in 2020
- Russia has lost more personnel in Ukraine than in all the other wars combined it fought since the end of World War 2

Country	Year 2020	Milex (current \$ bil.)	Milex (PPP \$ bil.)	Active Pers (x1000)	Reserve Pers (x1000)
NATO Europe		302	429,8	1848	1452
Canada		20	22,3	67	36
USA		738	738	1388	845
Ukraine		4,3	18	209	900
Belarus		0,6	2,3	45	290
Russia a)		43,1	134,7	900	2000
Russia b)		60,6	189,4	"	"

Country	Year 2023	Milex (current \$ bil.)	Milex (PPP \$ bil.)	Active Personnel (x 1000)	Reserve Personnel (x 1000)
NATO Europe		373,4	539	1829	1408
Canada		24,2	28,1	67	34
USA		905,4	905,4	1326	807
Ukraine		30,1	104,9	800	400
Belarus		1	3,8	49	290
Russia a)		74,8	243,1	1100	1500
Russia b)		108,5	352,6	"	"

Source: The International Institute for Strategic Studies, The Military Balance 2021 (above) and 2024 (below).
IMF World Economic Outlook Database, Oct 2024, to turn current \$ into PPP \$.



From: "How countries rank by military spending", *The Economist*, May 7, 2024

- **NATO Europe** on its own had in 2023 two thirds more active military personnel than Russia (1.8 vs. 1.1 million) and almost the same number of reservists
- Now, EU population (450 million) is three times Russia's (145 million). The U.S. (342 million) two and half times Russia's

In 2023, **NATO Europe's** military expenditures were:

- between 5- and 3.4-times Russia's (in U.S. dollars) at current exchange rates
- between 2.2- and 1.5-times (in U.S. dollars) at parity of purchasing power (PPP)
- depending on the criteria used to calculate Russian spending
- Russia's GDP is 10% of the EU's (7.2% of the U.S.'s) at current exchange rates, about 25% of the EU's (also 25% of the U.S.'s) at PPP

What we are comparing:

- On the one hand Russia, a country in the third year of a high attrition war, which burns at a very sustained rate what spends for its human and material military forces
- On the other, NATO, a coalition of 32 much richer countries, not directly involved in that war, whose losses are limited to the materiel, not always top of the line, turned over to Ukraine
- Provisional data for 2024: NATO defense expenditures increase 11% in real terms over 2023
- + 18% for NATO Europe (and Canada) + 7.2% for the U.S.

- Invading Ukraine has made Russia weaker, not stronger, than it was before
- Russia is no military match for NATO as a whole, nor for NATO Europe on its own

Plenty of people who say otherwise.

- Former NATO's Secretary General, Jens Stoltenberg (FT):
 - 1) "Europe has too few weapons, capabilities and troops at high readiness"
 - 2) "We know that we are behind [the Russians]"
 - 3) "I can't tell you exactly how much it will cost [to catch up], it will cost much more than 2 per cent, whether it's 2.5 or 3"

- On readiness there are no public data (there used to be); why do we need a higher readiness? weapons and troops, Europe definitively looks like having enough
- Are we really behind the Russians?
- He can't tell how much it will cost because NATO knows neither what capabilities it needs, nor how much will it cost to buy them

The newly appointed NATO's secretary general Mark Rutte speaking in Brussels on December 12, 2024:

- “When you look at the capability targets [...] We are in the process of establishing them, and we try to before summer [2025]. It was foreseen for October, but we have taken forward, because we cannot wait till October. So, we will speed up the whole process. And *hopefully* defense ministers will agree on closing off this whole process of reviewing our collective defense by May or June”

- Will we know what these capabilities are?

Rutte again:

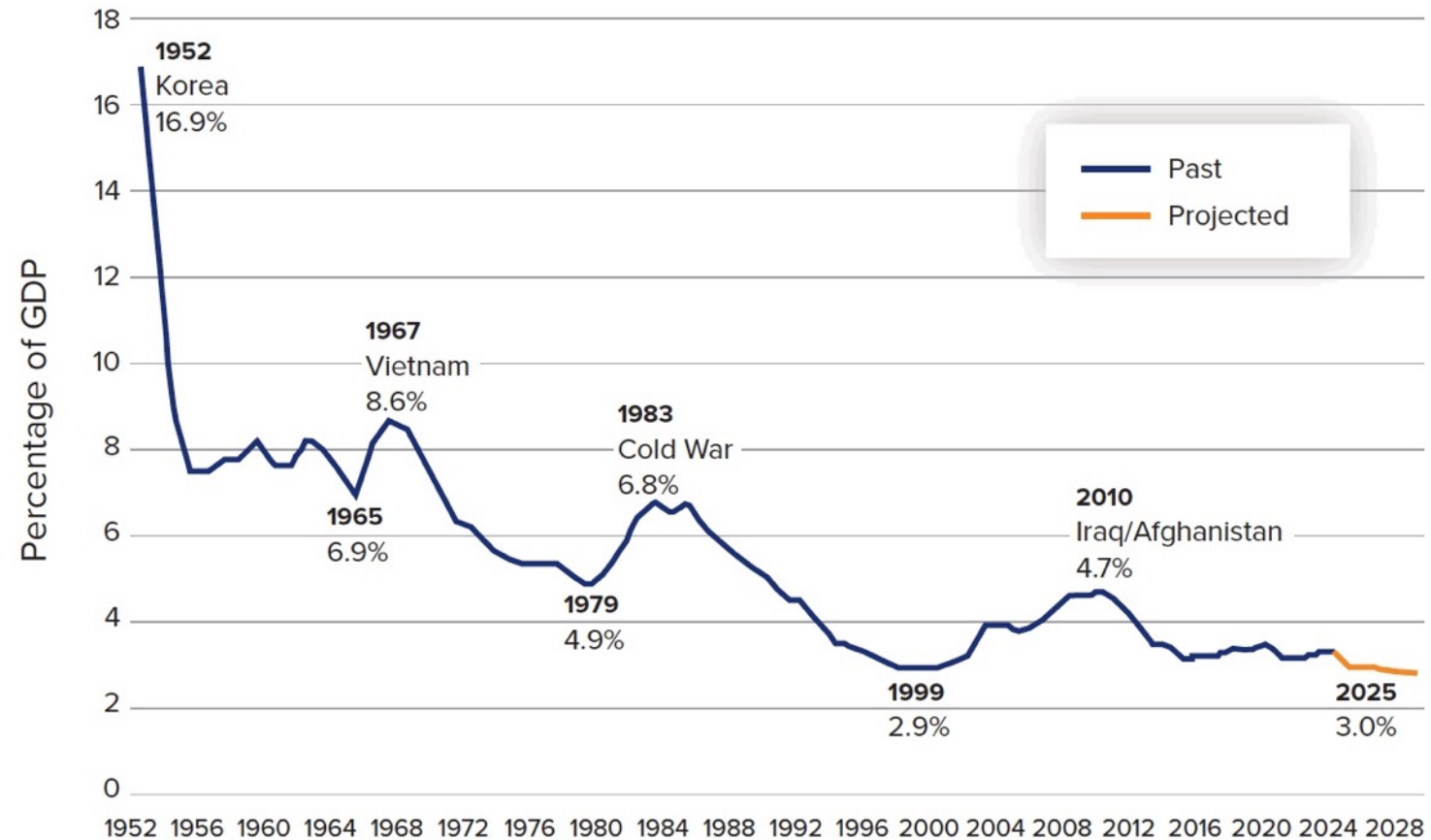
- “It could help, obviously to underpin the need to spend more. But obviously there are also political considerations we have to take into account. And sometimes there are some sensitivities, but we are looking at that. At what level of aggregation you can share the capability targets once they have been established”

- Morale: From what one can read in the IISS's Military Balance, capabilities and spending are now enough, relative to Russia
- But from what NATO does not know yet and probably will not tell us anyhow, no, they are not
- Is this a serious approach to asking hundreds of billions (euros or dollars is the same) to taxpayers?

- Only capability gap to emerge in the press (trumpeted ad nauseam) is ammunitions, artillery projectiles particularly.
- Old story, same in the eighties
- NATO need less (combined arms)
- Soviet legacy armies need heavily
- NATO has different calibers than Ukraine
- Taken care of with a few billions (€ 500 million from EU ASAP)

- BIG debate on military expenditures as % of GDP: 2%, 3%, 5%, whatever!
- Fixed percentages of GDP are simply stupid – Romano Prodi on Stability Pact (year 2002)
- No one spends a fixed percentage of their income on food, or on anything
- Denominator may change and does change
- What matters is whether defense purchasing power grows over time - in other words, **growth in real terms**

Defense Department Budget Authority as Percentage of Gross Domestic Product, FY 1952 to FY 2029

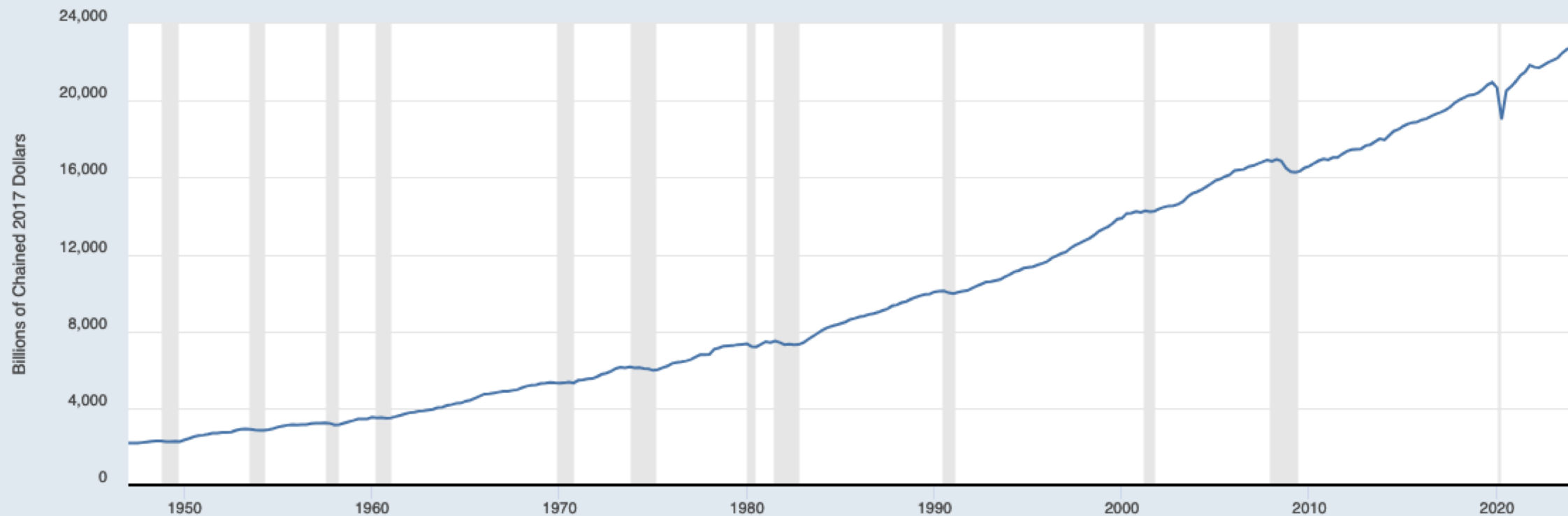


Source: Commission on the National Defense Strategy, July 2024

FRED



— Real Gross Domestic Product

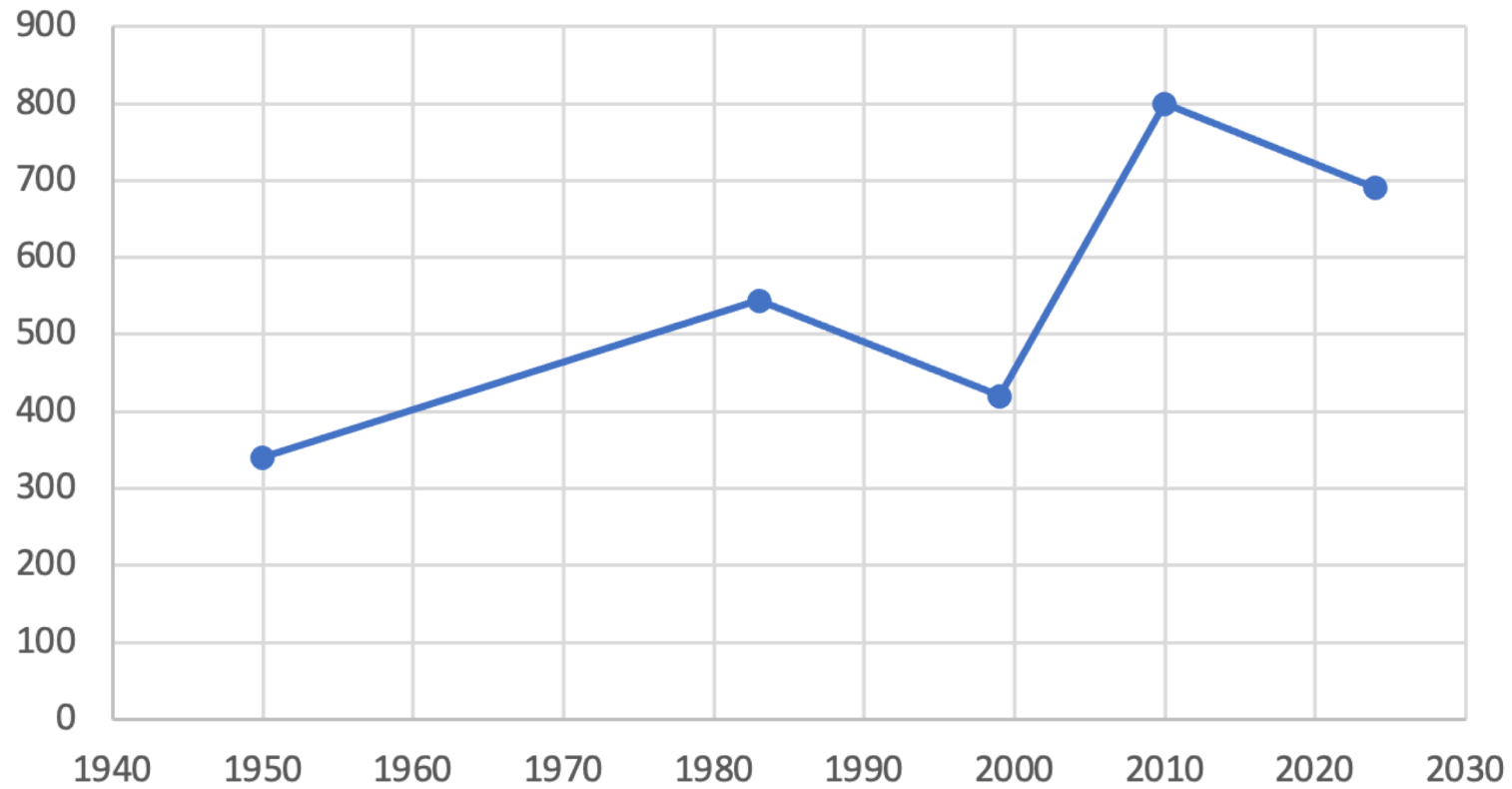


Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Economic Analysis

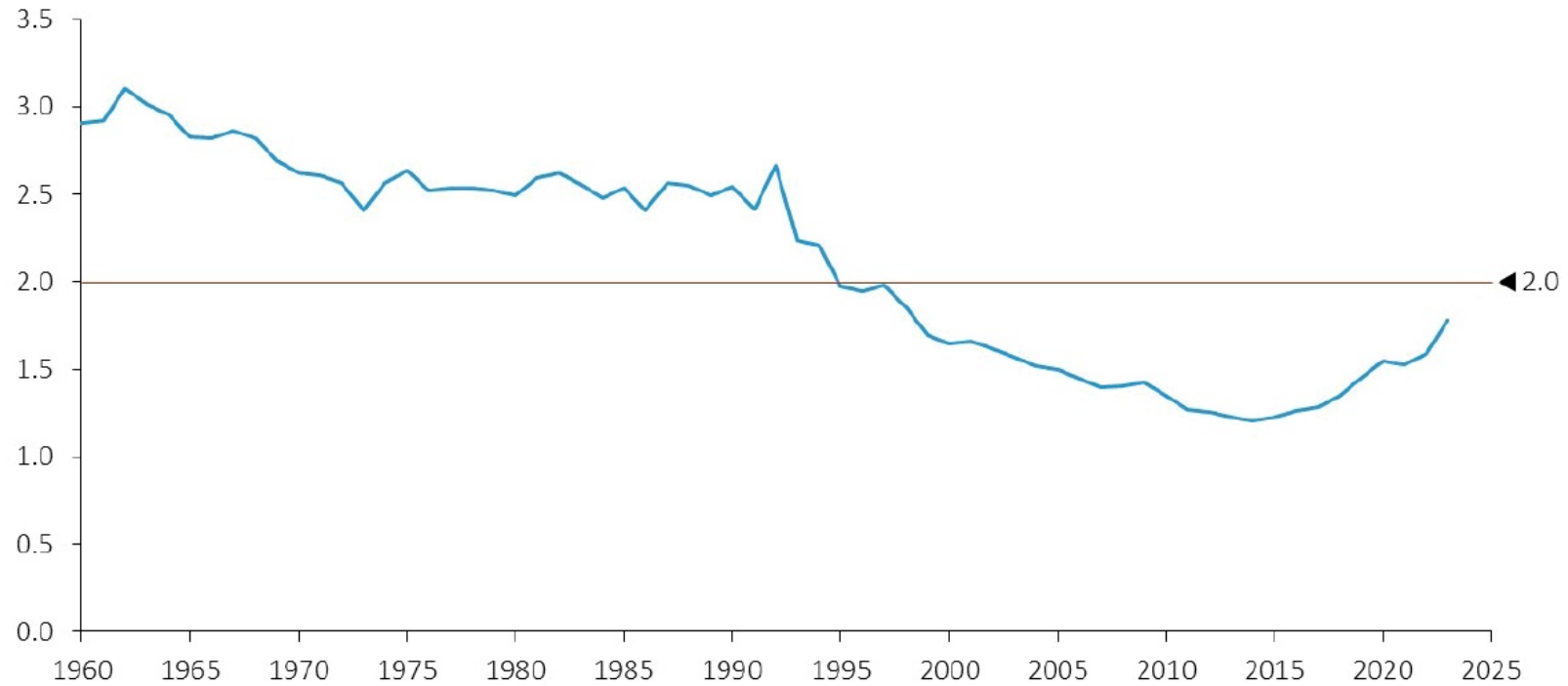
fred.stlouisfed.org

U.S. Milex constant 2017 \$



EU Member States' defence expenditure

% of GDP



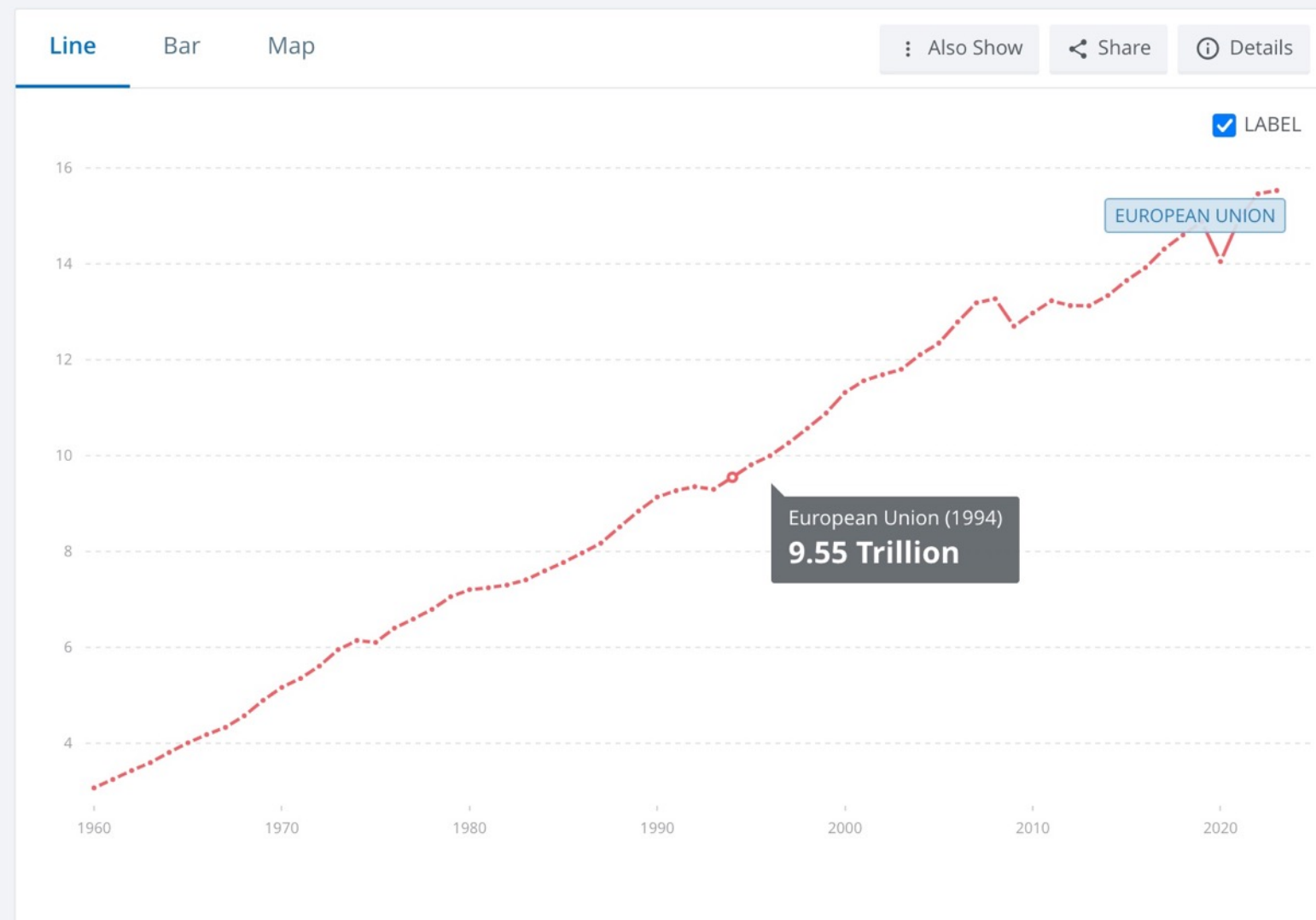
Source: SIPRI. Accessed 2024.

From: Draghi Report on the Future of European Competitiveness, 2024

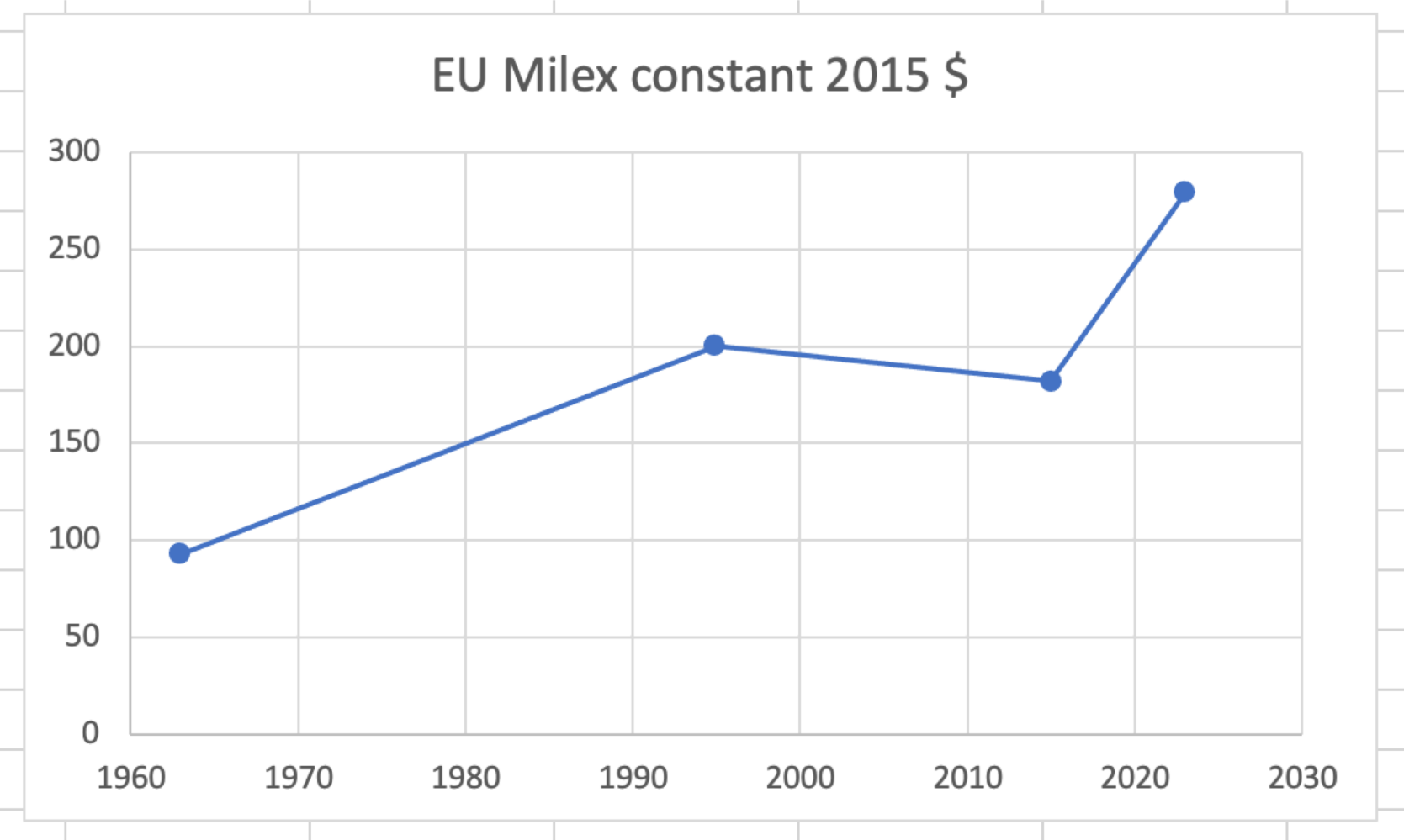
GDP (constant 2015 US\$) - European Union

World Bank national accounts data, and OECD National Accounts data files.

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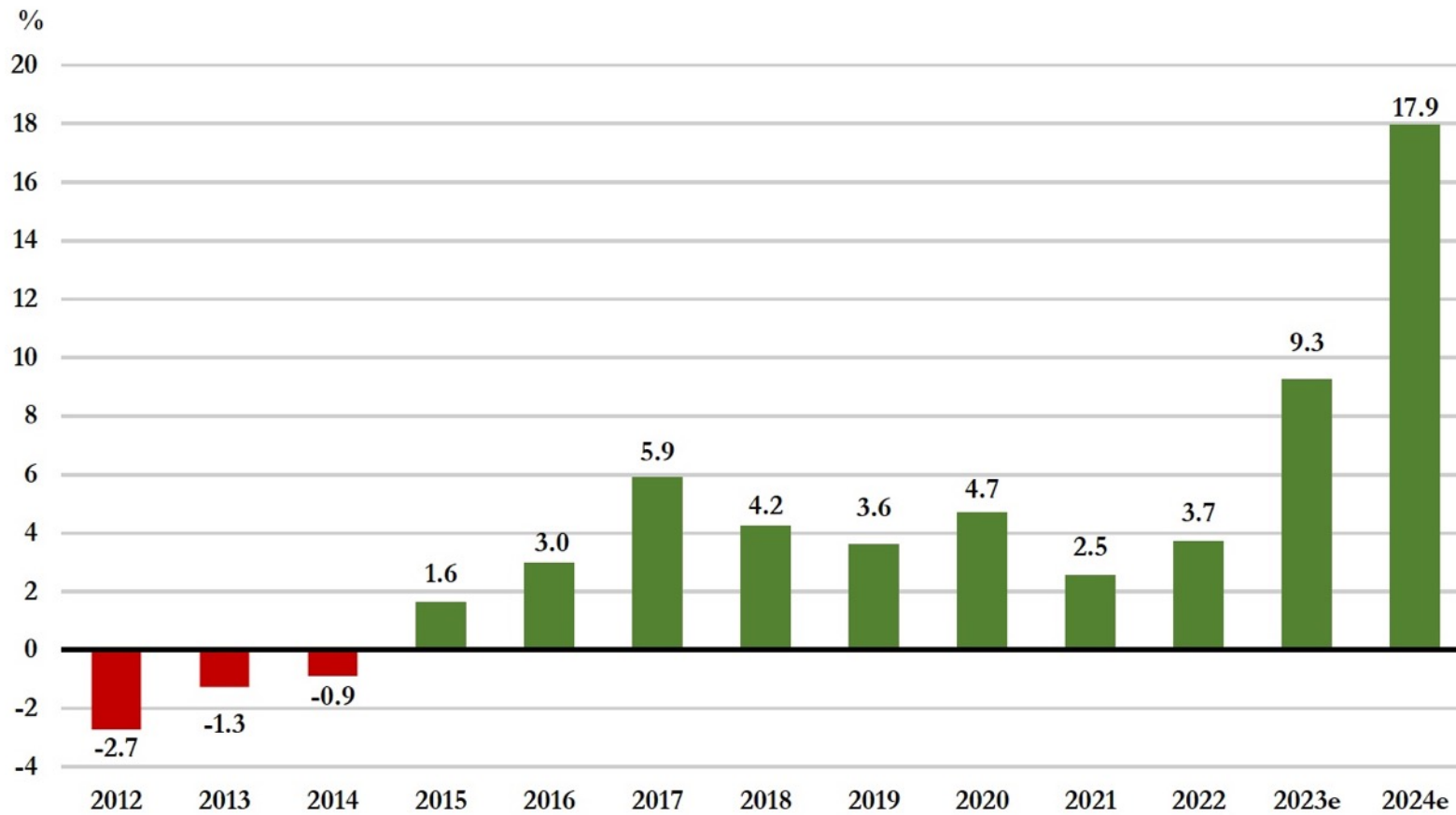


EU Milex constant 2015 \$



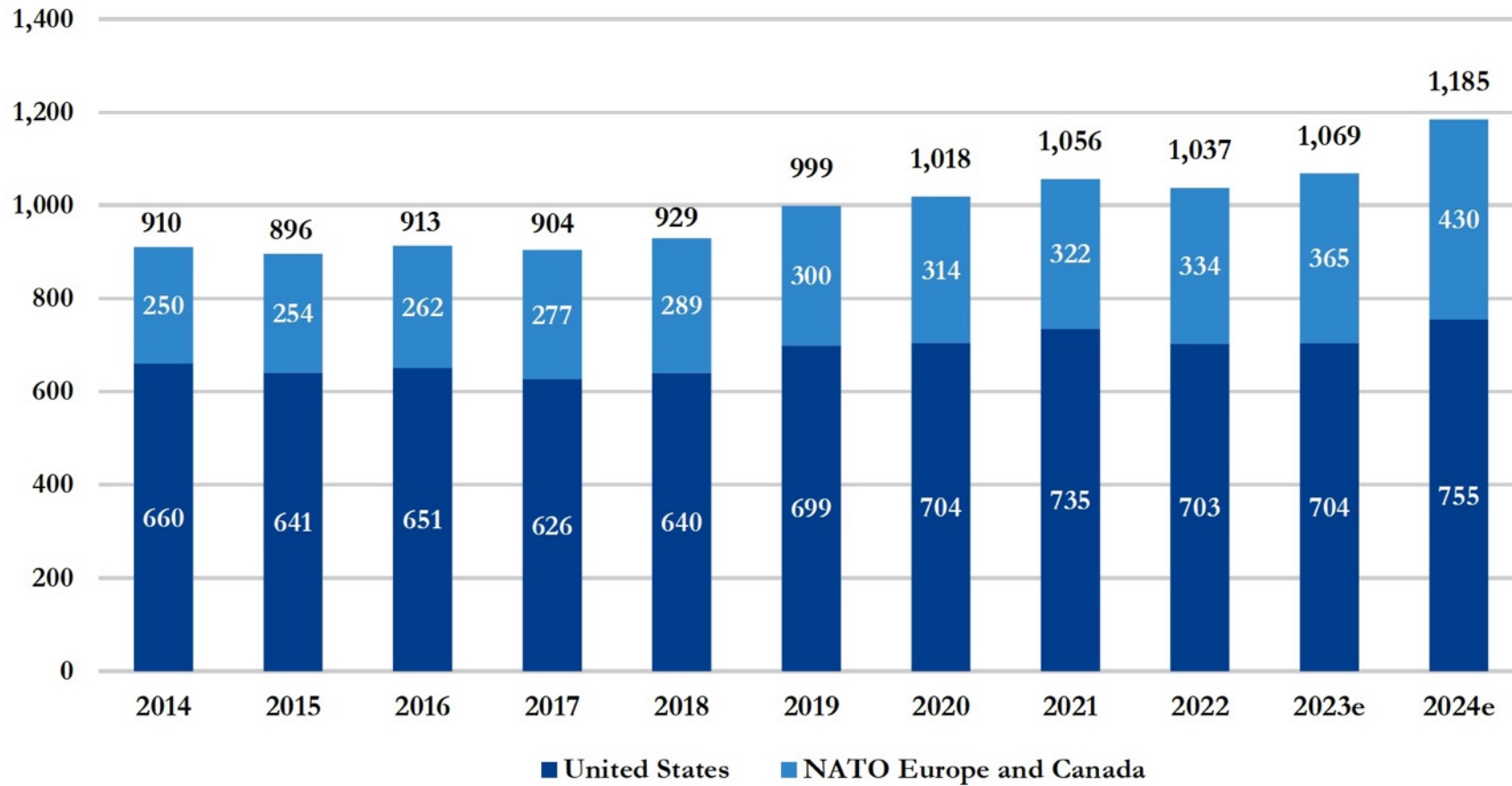
Graph 1 : NATO Europe and Canada - defence expenditure

(annual real change, based on 2015 prices and exchange rates)



From: "Defence Expenditure of NATO Countries (2014-2024)", NATO Press Release, 2024

Graph 6 : Defence expenditure
(billion US dollars, based on 2015 prices and exchange rates)



From: "Defence Expenditure of NATO Countries (2014-2024)", NATO Press Release, 2024

From: "Defence Expenditure of NATO Countries (2014-2024)", NATO Press Release, 2024

Table 4 : Defence expenditure real change 2014-2024e

Million US dollars (2015 prices and exchange rates)

	2014	2024e	Real change 2014-2024e (%)	Share of real GDP 2014 (%)	Share of real GDP 2024e (%)
Albania	150	309	106.27	1.35	2.03
Belgium	4,400	6,895	56.70	0.97	1.30
Bulgaria	643	1,395	117.09	1.31	2.18
Canada	15,563	24,551	57.75	1.01	1.37
Croatia	892	1,226	37.50	1.81	1.81
Czechia	1,683	4,567	171.30	0.94	2.10
Denmark	3,399	8,820	159.50	1.15	2.37
Estonia	431	944	118.70	1.93	3.43
Finland	3,387	6,170	82.19	1.45	2.41
France	43,935	55,195	25.63	1.82	2.06
Germany	39,274	76,943	95.91	1.19	2.12
Greece	4,358	6,792	55.87	2.22	3.08
Hungary	1,035	3,365	225.00	0.86	2.11
Italy	20,788	29,829	43.49	1.14	1.49
Latvia	246	1,022	316.36	0.94	3.15
Lithuania	357	1,517	324.45	0.88	2.85
Luxembourg	216	626	189.09	0.37	1.29
Montenegro	59	107	81.83	1.50	2.02
Netherlands	8,650	18,503	113.90	1.15	2.05
North Macedonia	106	263	148.87	1.09	2.22
Norway	5,865	9,653	64.59	1.54	2.20
Poland	8,557	26,839	213.66	1.88	4.12
Portugal	2,562	3,706	44.64	1.31	1.55
Romania	2,324	5,490	136.25	1.35	2.25
Slovak Republic	832	2,118	154.56	0.98	2.00
Slovenia	411	718	74.81	0.97	1.29
Spain	10,608	17,707	66.93	0.92	1.28
Sweden	5,157	12,613	144.58	1.06	2.14
Türkiye	11,783	26,952	128.74	1.45	2.09
United Kingdom	61,378	75,277	22.64	2.14	2.33
United States	660,021	754,684	14.34	3.71	3.38

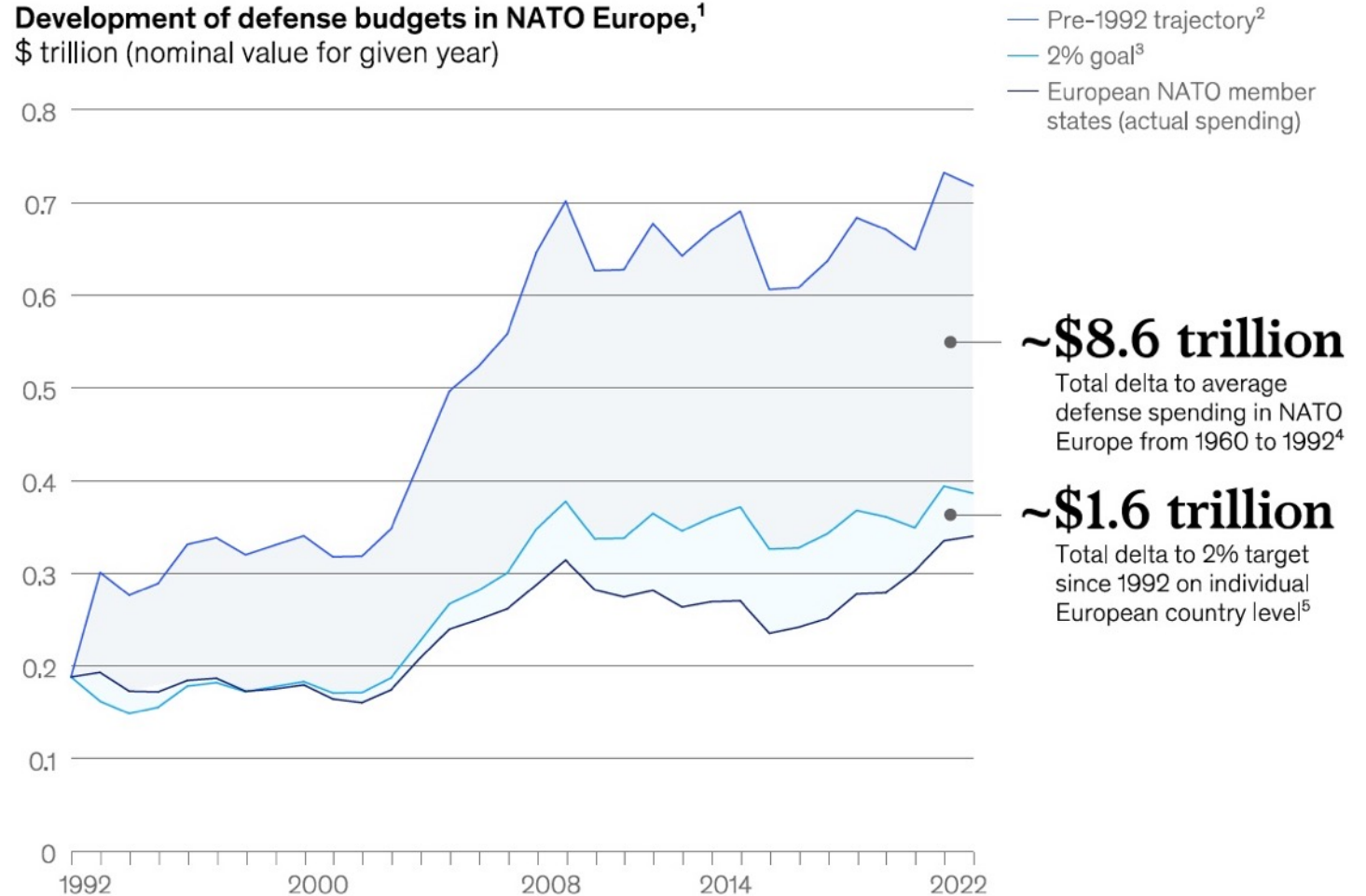
Note: Figures for 2024 are estimates.

- Missing the 2% target when it did not exist at all, i.e. ante-2006, or when it existed but NATO had no adversaries, i.e. ante-2014, “indulging in the peace dividend”, is supposed to have led to decades of neglect and underinvestment
- What neglect, what underinvestment?
- Just slogans, the more they are repeated, the more they become self-evident

From: "Innovation and efficiency: Increasing Europe's defense capabilities", McKinsey & Co. February 28, 2024.

European NATO member states have spent up to approximately \$8.6 trillion less on defense since 1992.

Development of defense budgets in NATO Europe,¹
\$ trillion (nominal value for given year)



¹Values for 2022 NATO estimates; the number of European NATO member states also increased over time and therefore many more countries contribute to the combined budget in 2021 than did in 1992 (examples are Bulgaria, Croatia, Czechia, Estonia, Latvia, Lithuania, Poland, Romania, or Slovakia).

²Calculated using average for the period of 1960 to 1992 (due to data availability) spend share of ~3.7%. ³2% Goal line shown also before 2014—the year of the NATO Wales agreement—for illustrating past spending levels; some countries are meeting the 2% goal but, collectively, it is not met. ⁴As share of GDP.

⁵~\$1.2 Trillion for NATO Europe as a whole due to some countries exceeding the 2% target.

Source: NATO statistics; World Bank; McKinsey analysis

- 1% of the EU GDP corresponds to about € 170 billion and is equal to the whole EU budget
- Italy spends 6% of its GDP on public health, almost 4% on interests on its public debt, 1.5% on defense
- Then there is extra budgetary spending: € 100 billion fund (Breton) becomes 5 times as much in just few months (von der Leyen)
- Figures totally out of control, outright insane

- If European arms production is so depleted a sudden injection of money on the demand side risks either to go unspent, or to chase higher prices, i.e. to fuel a sector-specific inflation
- Higher prices mean higher profits for arms makers, and this is exactly what the markets seem to expect if one looks at the valuation of the major European arms production from the beginning of Russia's invasion of Ukraine onwards

Stoxx Europe aerospace and defence index



Source: "Do not sound the alarm on Europe's defence sector yet", Financial Times, April 29, 2024

- Big spending increases will not materialize
- Europe is aging, its population shrinking, the door closing to immigration everywhere. A spike in productivity to fuel growth is unlikely
- Debt is a problem in all its major economies, well over 100% of GDP in France, Spain and Italy and in the UK as well. Germany, has negative growth, low investments, and a constitutional brake on deficit spending

- Rutte: “On average, European countries easily spend up to a quarter of their national income on pensions, health and social security systems. We need a small fraction of that money to make our defences much stronger, and to preserve our way of life”
- Good luck with that

- Even in the unlikely event of a complete U.S. disengagement from NATO, the cold numbers tell us that Europe has the raw capacity to guarantee its own security from a Russian conventional threat
- **Russia has but one clear military advantage over Europe: it is one**
- Whereas NATO Europe is the EU 27, minus four neutrals (Austria, Cyprus, Ireland and Malta) plus seven non-UE (Albania, Iceland, Montenegro, North Macedonia, Norway, Turkiye and the UK)

- Only the creation of a European army, by the EU as a whole or by some of its member states, could help limit spending, consolidate the European arms industry and allow Europe to act autonomously on defense
- How much would it cost?
- The truth is, nobody knows. Great subject for research. Probably the higher initial costs required by creating ex novo capabilities now provided by the U.S., would be balanced in the mid- long-term by economies of scale all over the place

Two big precedents:

- The first is the European Defense Community
- It would have set up a pan-European military with a central command, common budget, common armaments, centralized procurement and supervising political institutions that practically coincide with those of today's EU
- Proposed by France, the EDC was killed by France, when, on August 30, 1954, its Assemblée Nationale failed to ratify the Treaty establishing it

- The second big precedent is the EU monetary union, i.e. the creation of the euro.
- It could serve as a blueprint for the creation of a Military Union
- The European currency was not done overnight but in stages over a period of several years

- The euro started in 1999 with 11 member states, later grown to 20 over the years. Its membership remains open
- Military Union can be done by reforming the EU Treaty or by an ad hoc legal instrument outside the Treaty (Schengen)
- The eight “Tepid Integrationists” – Belgium, France, Germany, Italy, Luxembourg, the Netherlands, Portugal and Spain - could proceed regardless of the others
- In 2023 the group represented 41% of NATO Europe’s active personnel and 54% of its military expenditures – as well as the bulk of NATO Europe’s defense industry

- The creation of a European Army is the only move that is capable to deny to Russia the only clear military advantage it has vis-à-vis NATO Europe: being one
- In this sense, it is also a test of how serious European intentions in the defense field really are

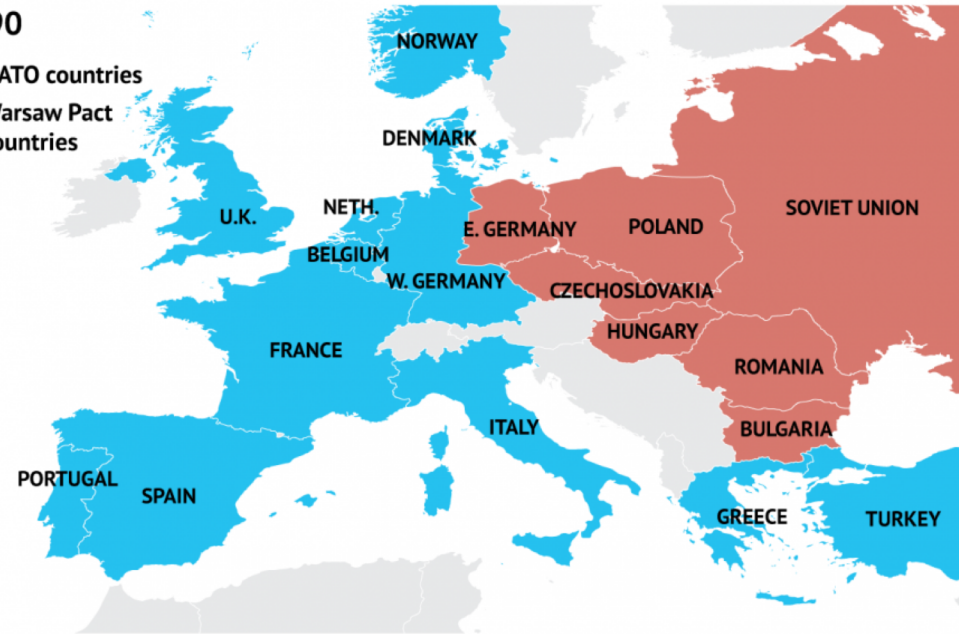
- The impact of a European Army on EU tax and spending would be huge
- Currently the EU budget amounts to no more than one percent of the EU GDP
- On the revenue side, it is made up exclusively of transfers from member states. Expenditures go almost exclusively to subsidies
- Transferring to the European level security and defense, would imply a tripling of the EU budget. It could not be done without allowing the EU to tax
- But this would eliminate free riding

- Compared to the cold war, defending Europe is today a piece of cake
- American and Russian nuclear weapons, tactical and strategic, are much fewer: 63,000 warheads in 1986, as opposed to around 11,000 today. They are deployed much farther apart, thousands of kilometers away from each other
- NATO is far stronger than Russia conventionally
- Belarus is the only Russia's (reluctant) ally left in Europe
- But NATO and Russian (and Belarusian) troops face each other along a much longer border than the Central front (700 km) of times past

NATO, RUSSIA AND THE WARSAW PACT

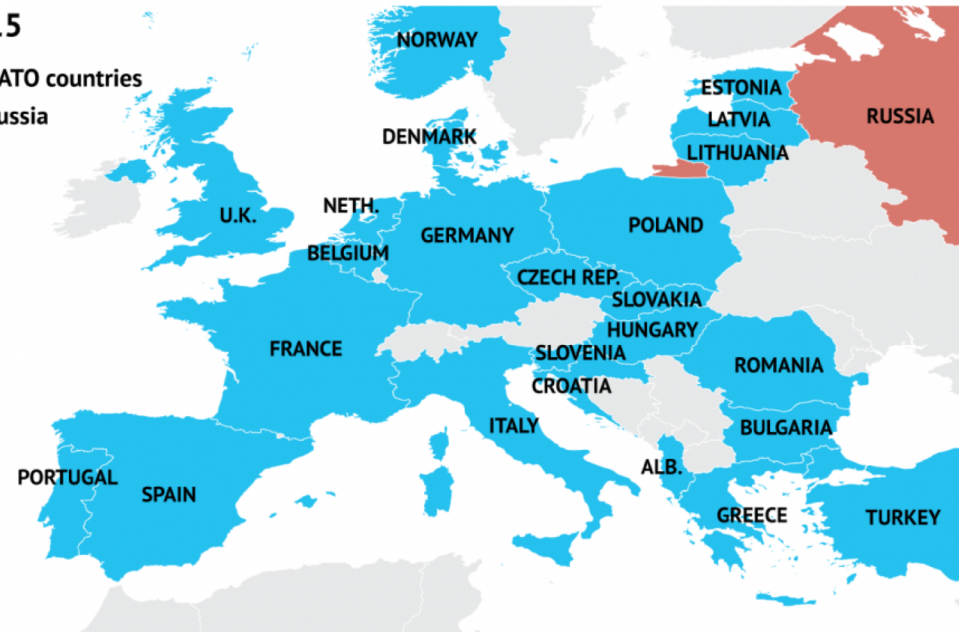
1990

- NATO countries
- Warsaw Pact countries



2015

- NATO countries
- Russia



- Finland and Norway in the North share a 1,500 km long border with Russia. Estonia and Latvia a further 500 km. Belarus has a 1,250 border with Latvia, Lithuania and Poland
- NATO's military doctrine is still forward defense coupled with the option of nuclear first use, as it used to be during the cold war
- Paradoxical, these two were justified by the lack of depth of the West German territory to be defended.
- But today's border states hate the idea of providing depth and love both forward defense and nuclear deterrence

- If the comparison with the cold war could be reassuring to NATO, it is definitely not to Russia
- To defuse ever-increasing tension and mutual distrust we need arms control. Nuclear and conventional – actually the two are linked, think of Russian tactical nukes
- What is needed is a drawdown of forward deployments **on both sides** of the NATO/Russia-Belarus divide, coupled with confidence-building and verification measures
- Pre-2014, the Atlantic Alliance had unilaterally renounced to its nuclear and conventional forward deployments

- The policy is wisely still alive as far as nukes are concerned, despite repeated offers by successive Polish governments to host nuclear assets on its territory
- So, it makes sense doing it and it can be done. Unilaterally, to a certain extent. Or, much better and more thoroughly, bilaterally
- Conventional forces **on both sides** could be restructured around stability, so as to be incapable of conducting large offensive operations, while at the same time presenting insurmountable defensive hurdles to an invasion
- Strukturelle Nichtangriffsfähigkeit, structural inability to attack

- Bilaterally means 32 subjects on the NATO side and 2, Russia and Belarus, on the other
- The EU could play an important role in this context to coordinate its 23 members belonging to NATO and come up with one stance on the major issues to be negotiated
- But in order to proceed bilaterally, even in the sense above, one needs to talk with the counterpart. No matter how unpleasant this counterpart can be
- Talking exclusively and around the clock about rearmament and more military spending, is not going to make arms control talks any nearer

Conclusions

- Europe is well defended. A weakened Russia is no match for NATO as a whole, nor for NATO Europe on its own
- Improvements at the margins are always possible. But no need for hard to find hundreds of billions of euros more
- American disengagement from Europe may happen. May be in the best interest of both America and Europe
- As Angela Merkel said, “we Europeans must really take our destiny in our own hands”

- Europe would need to duplicate some assets now provided by the U.S., and thus to spend more during a transitional period
- The transfer to the EU level of another function of government, i.e. defense and security, the creation of a European Army, would lead to economies of scale and a rationalization of defense procurement and production
- It won't be easy: Europe is divided
- Instead of obsessing over more spending and rearmament, Europe should focus on **stability**, reconfigure its armed forces accordingly through defensive defense postures, persuading Russia to do the same through **arms control and disarmament** measures.

Thank you for your attention