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Staff Memo

The basic balance – an adjusted current account balance

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The basic balance – An adjusted current account balance

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1. Introduction

The exchange rate is the price of local currency measured in foreign currency terms, eg the price of NOK in EUR. Exchange rates are determined in global FX markets, and the exchange rate will be the price when the supply of a country's currency is equal to the amount demanded. The supply and demand for a country's currency is, in turn, related to international trade in goods and services, interest accruals and other payments between countries and international capital flows such as lending and investment. Changes in currency supply and demand give rise to transactions that in turn lead to exchange rate movements.

The most comprehensive overview of transactions between Norway and other countries is found in the balance of payments (BOP). BOP includes all transactions between Norway and the rest of the world, including those related to trade in goods and services, capital flows such as net direct investment and net portfolio investment and transactions related to the government's petroleum revenue and the use of petroleum revenue spending to finance the non-oil budget deficit.

Owing to specific conditions related to the petroleum industry and the Government Pension Fund Global (GPF), excluding some BOP components may provide a more accurate overview of which transactions that could affect the krone exchange rate. This adjusted BOP is what we refer to as the basic balance.² This *Staff Memo* examines the relationship between the different BOP components, how the basic balance is calculated and how currency conversions related to government petroleum revenue and petroleum revenue spending affect the basic balance.

2. The relationship between the various balance of payments (BOP) components

The BOP summarises all transactions between Norway and other countries and is made up of three components: (1) the current account, (2) the capital account and (3) the financial account. The current account comprises imports and exports of goods and services, return on labour and capital and other international transfers. The capital account comprises capital transfers (eg gifts) and transactions in intangible assets such as licenses and rights. The financial account comprises Norway's holdings, transactions and other changes in foreign assets and liabilities and reflects the current and capital

¹ The views and conclusions expressed in this *Staff Memo* are the authors' own and do not necessarily reflect those of Norges Bank. They must therefore not be reported as Norges Bank's views. We would like to thank Karsten Gerdrup, Steinar Holden, Gaute Langeland, Ole Christian Bech-Moen and numerous other colleagues for valuable discussions and comments.

² This memo builds upon Lund (2009), "The basic balance", *Norges Bank Staff Memo* 7/2009.

accounts (hereinafter referred to as the current account balance).³ Chart 1 provides an overview of the different BOP components.

Chart 1: The balance of payments

Current account	Financial account balance
Balance of goods and services	Foreign assets
Balance of goods	Portfolio investment
Balance of services	Direct investment
Balance of income and current transfers	Other investment
Compensation of employees	Reserve assets
Other investments income (primary income), net	Liabilities
Other current transfers	Portfolio investment
Capital transfers to abroad, net	Direct investment
Acquisitions of patents, licenses etc. net	Other investment

In simpler terms, the financial account indicates how a current account balance surplus is invested or how a deficit is financed. A transaction in the current account balance will therefore be reflected in the financial account by changes in foreign assets and liabilities.⁴ For example, all else equal, increased imports of a good will lead to a lower current account balance. The importer, who pays for goods in foreign currency, can pay by selling NOK and buying foreign currency. If the importer then sells the NOK to a foreign investor who buys shares on the Oslo Stock Exchange, the transaction will appear as increased portfolio investment under the liability item in the financial account, thus increasing net liabilities (reducing net assets) (Chart 2).

³ By definition, these two should be equal, but various statistical discrepancies will mean that this is not always the case. There are different reasons why statistical discrepancies occur. Examples are accrual problems, incomplete and different data sources, different samples and quality problems with reported data.

⁴ This is often referred to as double-entry bookkeeping. However, it is worth noting that while transactions in the current account normally have a corresponding entry in the financial account, the reverse is not necessarily true. This is typically the case for the reallocation of existing assets and liabilities. For example, if foreign investors purchase shares on the Oslo Stock Exchange by reducing their NOK deposits in a Norwegian bank, the *portfolio investment* under the “liabilities” section in the financial account will increase, while *other investments* decrease correspondingly. Consequently, the net foreign asset position remains unchanged and the demand for NOK is not affected. Changes in asset values that do not result in transactions are also examples of changes in the financial account without a corresponding change in the current account.

Chart 2: Exchange needs in NOK to finance imports of a good

Current account ↓	Financial account balance ↓
Balance of goods and services Balance of goods ↓ Balance of services Balance of income and current transfers Compensation of employees Other investments income (primary income), net Other current transfers Capital transfers to abroad, net Acquisitions of patents, licenses etc. net	Foreign assets Portfolio investment Direct investment Other investment Reserve assets Liabilities Portfolio investment ↑ Direct investment Other investment

Although a current account deficit implies that the country is decreasing its net assets (increasing its net liabilities), it does not necessarily entail equivalent currency exchanges. In the example above, the importer can sell NOK and purchase foreign currency to make payments, as described earlier, or they can finance the goods using foreign currency loans or by reducing their foreign currency holdings (FX holdings). If the import is financed with foreign currency, this will not trigger conversion. In this scenario, the item *other investments* fall under *foreign assets* in the financial account, thus reducing net assets (increasing net liabilities) in the financial account equal to the decline in the current account balance (Chart 3).

Chart 3: Financing goods imports with foreign currency loans

Current account ↓	Financial account balance ↓
Balance of goods and services Balance of goods ↓ Balance of services Balance of income and current transfers Compensation of employees Other investments income (primary income), net Other current transfers Capital transfers to abroad, net Acquisitions of patents, licenses etc. net	Foreign assets Portfolio investment Direct investment Other investment ↓ Reserve assets Liabilities Portfolio investment Direct investment Other investment

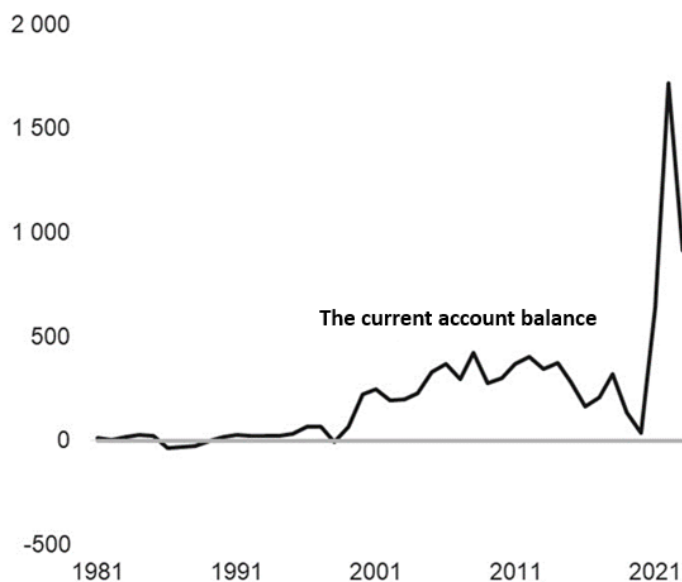
Similarly, an exporter who receives payment in foreign currency may choose to invest this income abroad instead of converting it to NOK. Consequently, the export will not generate increased NOK demand, even though the transaction results in an increase in the current account balance and a corresponding rise in net assets.

As discussed later in Section 3, conditions particular to petroleum activities in Norway are likely to prevent large portions of the current account balance from leading to net exchange between NOK and foreign currency, both in the short and long term. Over time, however, it is natural to assume that Norwegian firms will largely convert their foreign currency revenue into NOK, and that Norwegian households and firms that purchase goods from abroad will pay by converting NOK to foreign currency. Similarly, it is reasonable to assume that income earned in Norway by foreigners will be converted to foreign currency unless it is reinvested. This implies that a current account deficit will eventually necessitate NOK sales, while a current account surplus will over time necessitate NOK purchases.⁵

3. The basic balance – an adjusted current account balance for Norway

Over the past 20 years, Norway's current account balance surplus has been considerable owing to high petroleum and gas exports (Chart 4). In Norway, the government is the primary recipient of substantial petroleum industry revenue. This revenue generally generates a large and uneven capital inflow. If all petroleum revenue were converted into NOK and spent domestically, it would likely result in substantial krone exchange rate movements and NOK appreciation pressure. However, most of the government's petroleum revenue is invested abroad through the GPF, which alleviates this appreciation pressure considerably.⁶

Chart 4: Current account balance. In billions of NOK. 1981 - 2023



Source: Statistics Norway

⁵ However, this may be different for major settlement currencies such as USD, where there may be a structural demand for USD that allows the US to maintain a negative current account balance over time without USD depreciation.

⁶ Over time, it should be the petroleum revenue spending to finance the budget deficit that has a bearing on the exchange rate. In the short term, it cannot be ruled out that Norges Bank's FX transactions on behalf of the government have some bearing on the exchange rate (see the [Opinion piece](#) by Gaute Langeland, Executive Director, Norges Bank Markets).

In addition to the GPFG, oil companies have capital flows that do not necessarily impact NOK demand. While a conventional export company would typically convert foreign earnings into NOK to cover NOK expenses and thus reinvest profits in Norway, the petroleum industry operates on a global scale. Like other export firms, most of the revenue for oil companies is in foreign currency, but expenditure is in both NOK and foreign currency. Taxes and fees payable to the Norwegian government must be settled in NOK. Some other expenses will also be in NOK, while a substantial portion of expenses will be in foreign currency. It is also assumed that any surplus generated by oil companies will be retained in foreign currency.

Given that a substantial portion of Norway's current account balance is directly invested abroad through the GPFG and that oil companies retain part of their revenue in foreign currency, the current account balance does not fully reflect the transactions that will eventually necessitate conversion to NOK. We therefore calculate an adjusted current account balance, which excludes the portions related to the GPFG and the oil companies' revenue that are unlikely to affect the krone exchange rate. This adjusted account balance is referred to as the "basic balance" and is defined as follows:

- (1) Basic balance
 - = current account balance
 - long-term capital outflows related to petroleum activities.⁷

Long-term capital outflow related to petroleum activities (hereby referred to as long-term capital outflow) from Norway to other countries is equal to public and private long-term capital outflow.

- (2) Long-term capital outflow
 - = public long-term capital outflow
 - + private long-term capital outflow

Public capital outflow corresponds to the portion of the government's petroleum revenue and income from the GPFG (interest and dividend income) that is not used to finance the non-oil budget deficit but is transferred to the GPFG as savings in foreign currency.

- (3) Public long-term capital outflow
 - = The government's net cash flow from the petroleum industry⁸
 - + interest and dividend income from the GPFG
 - petroleum revenue spending to finance the non-oil budget deficit
 - = transfers to / saving in the GPFG

Private capital outflow is equal to the portion of Norwegian and foreign oil companies' petroleum revenue that is not converted to NOK but remains in foreign currency and thus does not affect NOK demand. This variable is based on a number of assumptions and the results are therefore highly

⁷ Long-term capital outflows also include flows unrelated to the petroleum industry. As these currency flows will not correlate with petroleum revenue they have been omitted.

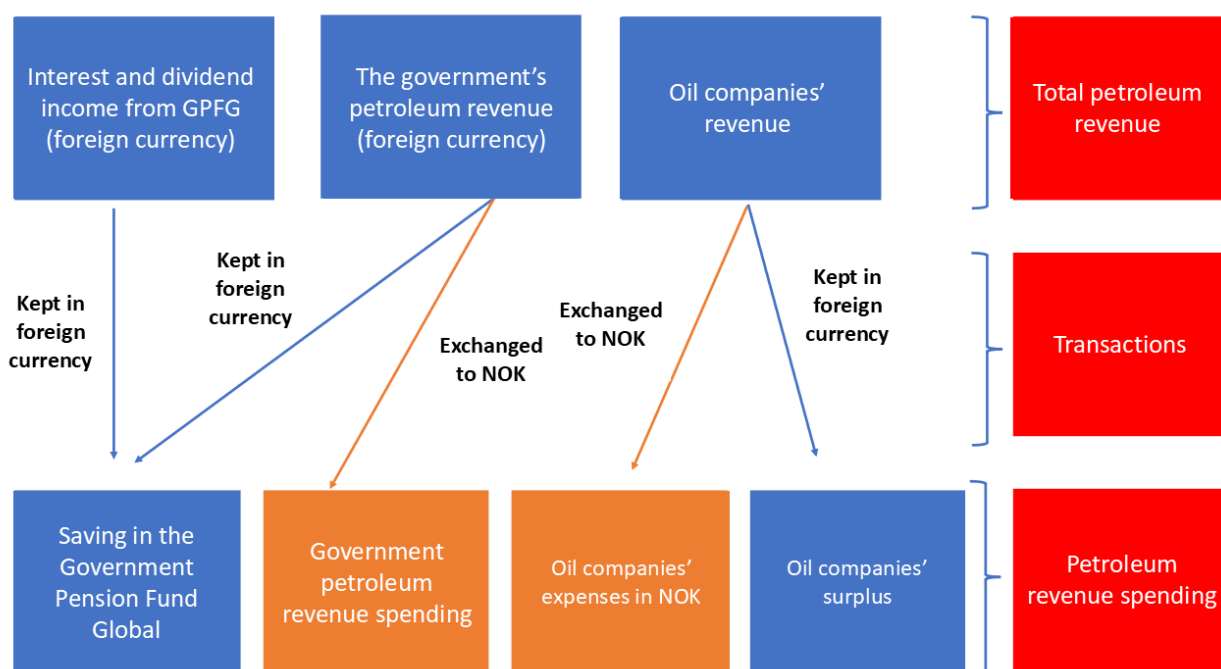
⁸ The government has revenue and expenses related to petroleum activities. Here we mean net petroleum revenue.

uncertain. Total petroleum revenue less the government's petroleum revenue is equal to private petroleum revenue.⁹ Private petroleum revenue less oil companies' NOK expenditures (assumed to be labour costs and investment) is equal to oil companies' long-term capital outflow.

- (4) Private long-term capital outflow
- = Gross product in the petroleum industry
 - the government's net cash flow from the petroleum industry
 - oil companies' investments
 - oil companies' labour expenditure

Chart 5 illustrates the various transactions from the petroleum industry in NOK and foreign currency.

Chart 5: Petroleum revenue and transactions in NOK and foreign currency

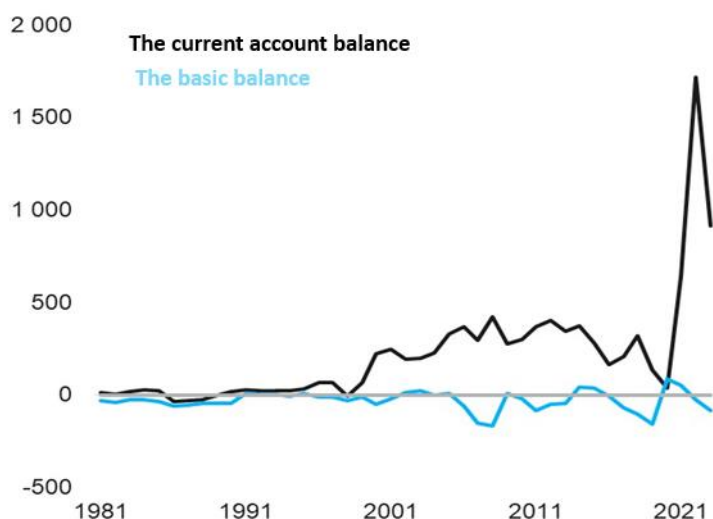


Our calculations of the basic balance and its components since 2006 are summarised in Annex Table 1. In 2023, the calculations show a negative basic balance, reflecting the fact that the long-term capital outflow in NOK exceeded the current account surplus.

Chart 6 shows a substantial current account surplus over the past 20 years. However, the basic balance has hovered around zero during much of this period. According to our basic balance calculation, the current account surplus has predominantly been invested in foreign currency and has thereby influenced the krone exchange rate less.

⁹ Private interest and dividend income invested abroad is omitted.

Chart 6: The current account balance and the basic balance. In billions of NOK. 1981 - 2023



Sources: Statistics Norway and Norges Bank

4. The relationship between the basic balance and the phasing in of petroleum revenue

Although a substantial share of petroleum revenue is invested in foreign currency, a portion of this revenue is also phased into the Norwegian economy through the central government budget. The phasing-in of petroleum revenues influences NOK demand.

The fiscal rule stipulates that the structural, non-oil budget deficit should, over time, align with the expected long-term real return of the GPFG, estimated at 3 percent. In accordance with the Government Pension Fund Act, the government's net petroleum revenue is placed in the GPFG, while withdrawals from the GPFG are made to cover the non-oil deficit.

The petroleum fund mechanism is the system that channels government revenues from petroleum activities on the Norwegian continental shelf and return on the GPFG to the central government budget and saving in the GPFG.¹⁰ The system is based on assets in the GPFG being invested exclusively in foreign currency. Current revenues from petroleum activities are in both NOK and foreign currency. The largest NOK revenue is from taxes and duties imposed on companies engaged in oil and gas exploration and extraction on the Norwegian continental shelf, as well as dividends from Equinor. These companies' revenues are in foreign currency, and they must therefore purchase NOK to pay taxes. In addition, the government receives substantial foreign currency revenue from the State's Direct Financial Interest (SDFI) and in the form of interest and dividends from the GPFG. Since assets in the GPFG are exclusively invested in foreign currency, the return on the GPFT is also in foreign currency.

Norges Bank has been tasked by the Ministry of Finance with carrying out the necessary currency transactions associated with the petroleum fund mechanism, to ensure enough NOK to spend and/or enough foreign currency to transfer to the GPFG. Both the oil companies and Norges Bank will therefore engage in currency conversions linked to petroleum revenue and the phasing-in of this revenue to the central government budget through the fiscal rule. This results in capital inflows to Norway and the need

¹⁰ See Norges Bank's webpages on [Norges Bank's foreign exchange transactions on behalf of the government](#)

to convert foreign currency to NOK. Overall, foreign currency equivalent to the non-oil budget deficit is converted into NOK each year, which in isolation contributes to an increase in the basic balance. To illustrate this, it is useful to substitute equations (2), (3) and (4) into equation (1), yielding the following equation for the basic balance:

(5) The basic balance

- = current account balance
- interest and dividends in the GPFG
- + spending of petroleum revenue to finance the non-oil budget deficit
- (gross product in the petroleum industry
 - oil companies' petroleum investment
 - oil companies' labour expenditure)

Equation (5) shows that a rise in petroleum revenue spending increases the basic balance and thereby NOK demand. The rise in the non-oil budget deficit primarily reflects the increase in the basic balance both following the financial crisis in 2009 and during the pandemic in 2020 and 2021. However, changes in petroleum taxes or other exchanges related to the petroleum fund mechanism are not included in the basic balance and will therefore not affect demand for NOK.

5. Summary

The BOP provides the most comprehensive overview of transactions between Norway and other countries but does not necessarily reflect actual net conversions between NOK and foreign currency. To address this, we calculate the so-called basic balance in this Staff Memo. Slightly simplified, the basic balance can be viewed as the part of the current account that corresponds to a change in the demand for NOK. Over the past 20 years, the current account surplus has been substantial, but the basic balance has been close to zero for much of the period. In 2022 and 2023, the basic balance was negative.

6. Annex

Table 1: Calculation¹⁾²⁾ of the basic balance. NOK billion. 2006 – 2023

		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
A	Current account balance	370	297	423	276	303	372	404	347	374	282	163	210	320	136	38	644	1722	917
B = 1 + 2 - 3	Public long-term capital outflow	354	388	505	259	253	364	401	353	312	217	101	133	243	267	-93	112	1243	1030
1	Government's net cash flow from the petroleum industry	355	316	416	280	276	351	395	345	312	218	125	168	251	257	107	288	1285	978
2	Interest and dividend income from the GPF	56	74	98	87	86	97	110	125	156	185	189	196	217	239	217	214	267	339
3	Petroleum revenue spending to finance the non-oil budget deficit	57	3	8	107	109	84	105	117	156	186	213	231	226	229	417	390	310	286
C = 4 - 1 - 5 - 6	Private long-term capital outflow	74	61	87	10	70	91	52	38	21	27	68	145	180	27	47	478	507	-29
4	Gross product in the petroleum industry	543	510	655	458	508	629	665	644	600	486	396	499	623	504	376	988	2017	1219
1	Government's net cash flow from the petroleum industry	355	316	416	280	276	351	395	345	312	218	125	168	251	257	107	288	1285	978
5	Oil companies' investment expenditure	98	114	129	141	132	154	181	220	226	202	165	150	153	179	180	179	177	216
6	Oil companies' labour expenditure	16	19	24	28	29	33	37	41	42	40	38	37	39	42	42	43	48	54
A - B - C	Basic Balance	-58	-152	-169	7	-20	-83	-49	-44	41	37	-7	-68	-102	-157	85	54	-28	-84

- (1) "Current account balance" (A) is obtained from Statistics Norway table 09672 "Current and capital account". The government's net cash flow from the petroleum industry" (1) is obtained from Statistics Norway table 11013 "Central government fiscal account. Net cash flow from petroleum activities". "Interest and dividend income from the GPF" (2) is obtained from the government accounts in report No.3 to the Parliament. "The use of petroleum revenue to finance the non-oil budget deficit" (3) corresponds to the difference between (1) "government's net cash flow from the petroleum industry" and net transfers to the GPF which is obtained from Statistics Norway table 03730 "D. net transfers to the government pension fund - global". "Gross product in the petroleum industry" (4) is the sum of the gross product for variables "Extraction of crude oil and natural gas" and "Extraction and transport via pipelines (GFCF)" obtained from Statistics Norway table 09190. "Oil companies' investment expenditure" (5) is the sum of gross investments for "oil and gas extraction and "Transport via pipelines" from Statistics Norway table 09183 "Gross fixed capital formation, by type and industry". "Oil companies' labour expenditure" (6) is the sum of "Oil and gas extraction" and "Transport via pipelines" obtained from Statistics Norway table 09174 "Wages and salaries, employment and productivity, by industry".
- (2) The oil companies' large revenues in 2021 and 2022 must be seen in the context of the petroleum tax package and high oil and gas prices in 2022 in the wake of Russia's invasion of Ukraine.