

**portu**

by WOOD & Company

# Czy dane ekonomiczne faktycznie zaskakują?

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**Mikołaj Raczyński, CFA**

Chief Investment Officer  
Head of Portu Poland

## Mikołaj Raczyński, CFA

Ekspert rynków finansowych, zarządzania aktywami, manager, ekonomista. Od lutego 2023 roku związany z Portu – platformą inwestycyjną domu maklerskiego WOOD & Co. – jako Chief Investment Officer oraz Head of Portu Poland. Wcześniej, w latach 2013-2022, pracował dla Noble Funds TFI, gdzie zajmował stanowiska odpowiednio Zarządzającego Funduszami, Dyrektora Działu Zarządzania Funduszami oraz Członka Zarządu odpowiedzialnego za podejmowanie decyzji inwestycyjnych. Karierę rozpoczął w dziale analiz Domu Inwestycyjnego Investors S.A.

Wielokrotnie nagradzany przez Gazetę Giełdy i Inwestorów „Parkiet” za wyniki inwestycyjne (Złoty Portfel za rok 2015 oraz 2020), oraz prognozy makroekonomiczne (Najlepszy Analityk Makroekonomiczny 2016 i 2019 roku).

Absolwent Szkoły Głównej Handlowej w Warszawie oraz Politechniki Warszawskiej. Posiada tytuł CFA (Chartered Financial Analyst) oraz licencję Doradcy Inwestycyjnego.



196 000  
użytkowników

770 mln €  
pod zarządzaniem

Portfele ESG

Fundusze ETF

Aplikacja Android i iOS

Najlepszy interface na rynku

## **Jak powstają prognozy makroekonomiczne?**



**Macro Stress testy kredytowe**



**Co mówią rynki finansowe?**



**Założenia makroekonomiczne Portu**



**Analiza sektorowa**

**Podsumowanie + Q&A** 

1. Wykorzystanie **publicznie** dostępnych danych w modelu makroekonomicznym
2. Wykorzystanie **niepublicznych** danych w modelu makroekonomicznych
3. Próba **estymacji** przyszłości na bazie zależności historycznych pomiędzy znanymi danymi makroekonomicznymi
4. Metoda **ekspercka**

### Przykład:

PKB za bieżący kwartał =  
produkcja przemysłowa +  
sprzedaż detaliczna + produkcja  
budowlano-montażowa + płace +  
zatrudnienie + bezrobotni

PKB na przyszły kwartał = trend w  
danych + polityka pieniężna +  
polityka fiskalna + metoda  
ekspercka

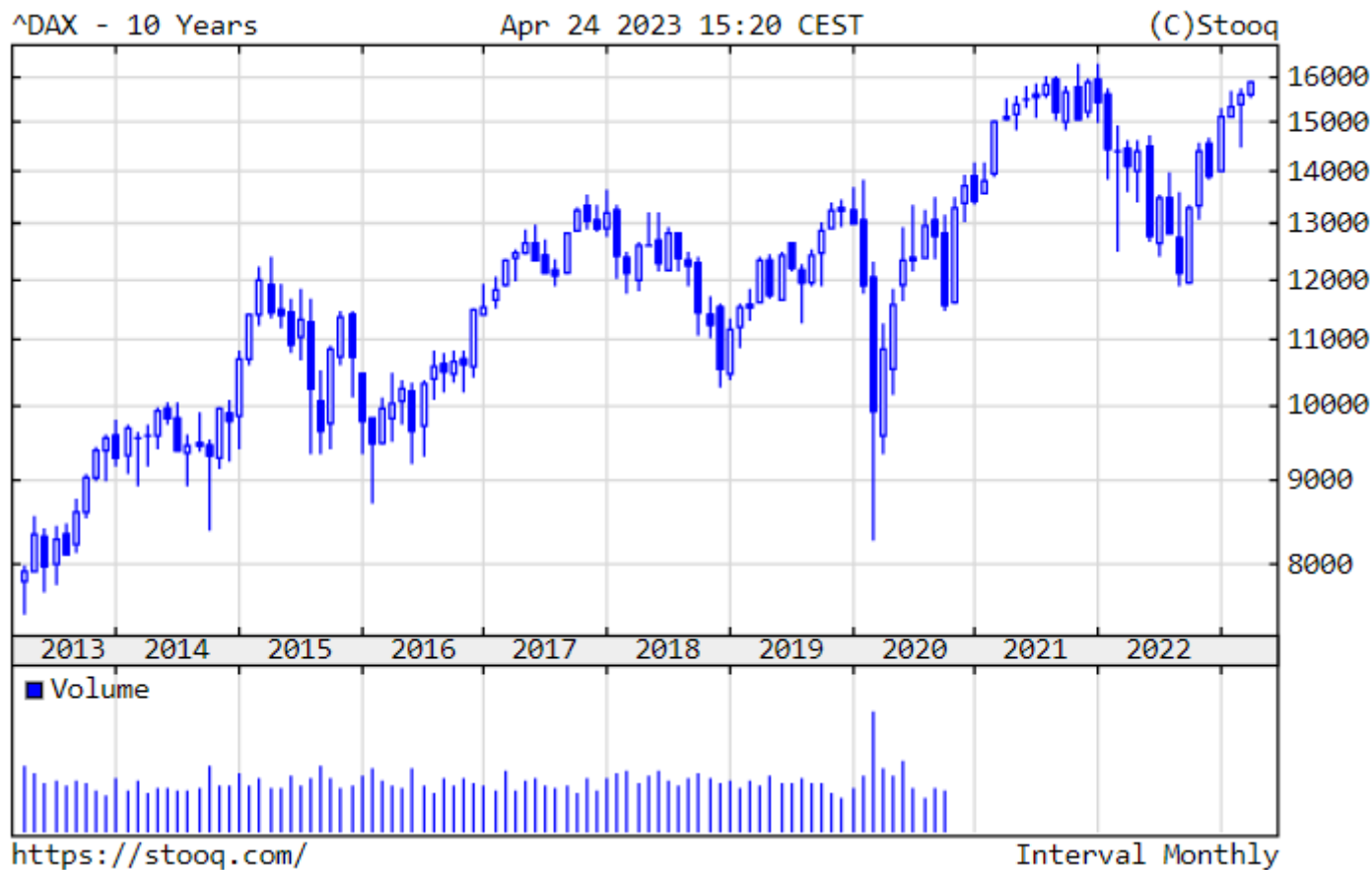


TABLE 1: MACRO STRESS TESTING OF CREDIT RISK - METHODOLOGY OF SELECTED AUTHORITIES

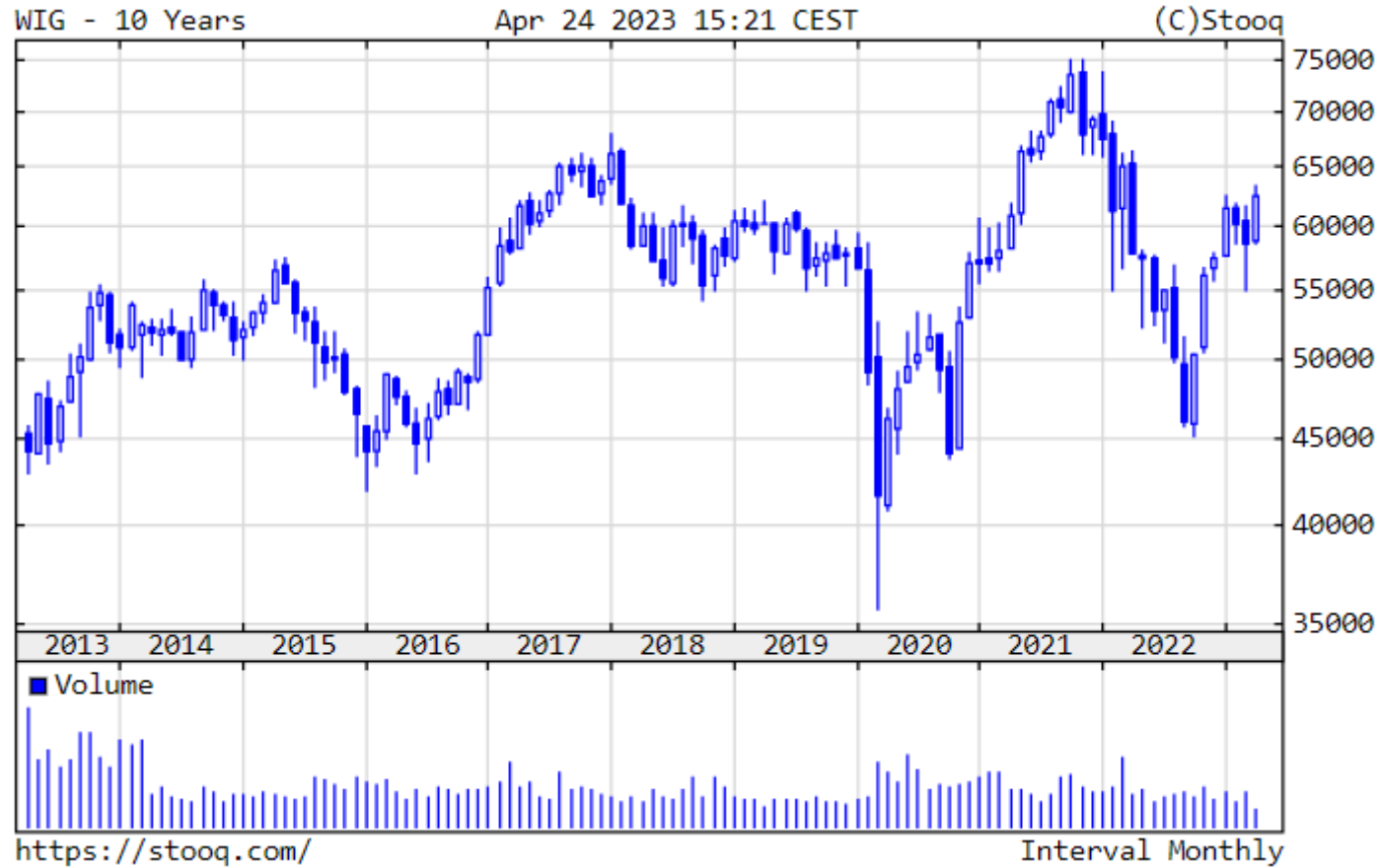
Agency	credit risk model		data and estimation	macroeconomic model	stress methodology	impact measure	reference
	dependent variable	independent variables					
Bank of England	logit transformation of aggregate default rates	- GDP growth - short-term IR - equity return	linear OLS regressions on quarterly data (various samples)	Macroeconomic scenarios are generated by a two-country GVAR (UK, US) model, which includes six country variables and a foreign variable (see ECB box)	Conditional/unconditional GVAR simulations, historical recessions, parameter breaks	<i>stressed asset distribution</i>	Alessandri-Gai Kapadia-Mora-Puhr (2007)
Bank of Italy	- corporate default rate - output gap - inflation rate - 3m IR - real exchange rate		1990(1)-2005(2); quarterly data; VAR(1) estimation	The BOI's quarterly macroeconomic model. For shocks affecting the Euro-area and/or the world economy, satellite models used for the Eurosystem projections or IMF models were also applied	The outputs of the macro model (stressed output gap and interest rate) are the input of the credit risk VAR model	<i>stressed default rates and expected losses</i>	Marcucci-Quagliariello (2005); Laviola-Marcucci-Quagliariello (2006)
	logit transformation of sectoral default rates (8 corporate sectors)	GDP growth, equity index, competitiveness index, interest rate, two contagion latent factors depending on the sector	1990(1)-2006(3); quarterly data; SUR estimation	the BOI's quarterly macroeconomic model (under way)	the output of the macro model in term of stressed macroeconomic variables are the input of the sectoral credit risk model (under way)	<i>stressed credit loss distributions (under way)</i>	Fiori, Foglia, Iannotti (2008)
Bank of Japan	probit transformation of the probability of a rating transition	- GDP growth - ratio of interest-bearing liability to cash flow	data on bank borrowers SUR regression for a system of 5 equations (one for each rating category) 1985-2005	a VAR model comprised of five variables: GDP CPI bank loan outstanding effective exchange rate call rate	VAR forecasts to: i) a negative GDP shock, of which probability is one percent; b) a negative GDP shock equivalent to the financial crisis since 1997	<i>maximum loss to capital derived from a Monte Carlo simulation</i>	Bank of Japan, Financial System Report (2007)
Bank of Spain	probit transformation of the default rate	- quarterly change in real GDP growth - variation of three-month real interest rate - term spread - six sectoral variables - two latent factors	10 sectoral equations for corporates; 2 equations for households; 1984Q4-2006Q4	VAR(1) estimation for the macroeconomic variables and for the latent factors	an artificial shock (3 standard deviations) to the GDP and interest rate variables is introduced in the vector of innovations	<i>Stressed credit loss distribution</i>	Jimenez-Mencia (2007)
De Nederlandsche Bank (DNB)	logit transformation of the default rate	- real GDP growth - term spread	a system of 2 simultaneous equations; annual data 1990-2004; panel estimation	i) the domestic macroeconomic model developed at the DNB plus NIGEM world model. They are used to generate projections of the macroeconomic variables given the initial shock to the exogenous variables; ii) a VAR(2) model for the macroeconomic variables included in the credit risk equations.	First type of stress: the deviations of the macro variable from the baseline scenarios - obtained as output of the macroeconomic model - are input in the credit risk model  Second type of stress: the stressed (future) values of the macro-variables as projected by the macroeconomic model are used to estimate a AR(2) or a VAR(2) model for the macroeconomic variables of the credit risk equations	First type of stress: <i>stressed PDs, expected losses</i>  Second type of stress: <i>a stressed credit loss distribution is simulated by taking random draws of the innovations in the macro variables used in the "stressed" VAR(2) model</i>	van den End-Hoebrechts-Tabbae (2006)
	logit transformation of the LLP ratio	- real GDP growth - long-term IR - logit transformation of the default rate					
Deutsche Bundesbank	logit transformation of the LLP ratio	- lagged dependent variable - credit growth - real GDP growth - variation short-term IR	a system of 2 simultaneous equations; panel data from 1993; dynamic panel estimation	The macroeconomic model developed at the Bundesbank used to generate projections of the macroeconomic variables	Given the initial shock to the exogenous variables, the stressed values of the macroeconomic variables are used to project an after-shock value of the variables that are input of the credit risk model	<i>loan loss provisions</i>	Deutsche Bundesbank (2006)
	credit growth	- lagged credit growth - real GDP growth - variation short-term IR					

TABLE 1 (continued): MACRO STRESS TESTING OF CREDIT RISK - METHODOLOGY OF SELECTED AUTHORITIES

Agency	credit risk model		data and estimation	macroeconomic model	stress methodology	impact measure	reference
	dependent variable	independent variables					
ECB	EDF of euro area corporates	- euro area <b>real GDP</b> - CPI inflation - real equity prices - real euro/US\$ exchange rate - short term IR	regression model of the median EDF (1 aggregate/8 sector specific); quarterly data, 1992-2005	Macroeconomic scenarios are generated by a global VAR (GVAR) model which includes 7 variables (six country/region variables and a vector of foreign variables specific to each country/region) and 33 countries, where 8 of the 11 countries that originally formed the euro area are grouped together and the remaining 25 countries are modelled individually by a VECM	The impulse responses from the GVAR model to 5 standard deviation shocks to one of the macrovariable of the GVAR model	<i>Stressed credit loss distribution</i>	Castrén-Dées-Zaher (2008) Castrén-Fitzpatrick-Sydow (2008)
French Banking Commission and Banque de France	logit transformation of the probability of a rating transition	- <b>GDP</b> - short-term IR - long-term IR	logit/probit estimation based on observed transition matrices and macroeconomic variables	The Mascotte macroeconomic model developed by the Banque de France for macroeconomic forecasts	The outputs of the macro model (stressed GDP, s.t. and I.L. interest rates) are the input of the credit risk model	<i>Stressed solvency ratio</i> as a result of stressed risk-weighted assets (via credit risk model) and a stressed capital (via an intermediation income model, not described here)	Commission Bancaire (2007)
Norges Bank	Loan loss ratio  RWD=PD*DEBT  probability of bankruptcy (PD)	- lagged risk-weighted debt (RWD) - house prices (first difference)  age, size, accounting variables measuring corporate earnings, liquidity and financial strengths	A logit model that predicts individual bankruptcy probabilities estimated using the entire population of enterprises (about 400.000) in Norges Bank's accounts database for the period 1990-1996.	The scenarios were developed using Norges Bank's macroeconomic model. Projections from this model were used as a baseline scenario	The change in the macrovariables from the macroeconomic model are translated into changes in accounting variables and a stressed PD is obtained	<i>Expected losses</i>	Eklund-Larsen-Berhardsen (2001) Hagen-Lund-Nordal-Steffensen (2005)
Österreichische Nationalbank (OeNB)	first difference of the logit transformation of industry default rates	depending on the industry: - <b>real GDP</b> - Industrial Production - Unemployment Rate - Equipment Investments - Oil (Brent) in Euro - Real Short-term IR - Real 5y IR all variables (except unemployment rate) were taken as logarithmic changes of the moving average over four quarters	ML estimation of the first difference of the logit transformation of observed industry default rates; independent estimation for 7 sectors (total 11 sectors); quarterly data: 1969-2007	i) within SRM: Modeling of the joint distribution of macroeconomic and market risk factors through a t-grouped copula approach with 4 groups (macroeconomic variables, interest rates, fx-rates, equity price indices) ii) For FSAP 2007: Domestic model developed at the OeNB plus NiGEM world model to project macroeconomic variables given an initial shock	i) Within SRM: risk factors (macroeconomic variables and market risk factors) are increased by percentage or percentage points or set to the stressed value ii) For FSap: Projected outputs of the macroeconomic model are used as input for the credit risk model	- Stressed Capital Adequacy Ratio (CAR) and expected losses - with the Systemic Risk Monitor (SRM) wherein the credit risk model is integrated a loss distribution is estimated using a modified version of Credit Risk Plus	Previous version in: Boss-Breuer-Elsinger-Krenn-Lehar-Puhr-Summer (2006); current version is planned to be published in 2008
Sveriges Riksbank	- EDF of Swedish listed companies - domestic industrial product index - domestic consumer price index - nominal domestic 3m IR		Monthly data 1997-2006 VECM estimation	The DSGE model used for policy simulation generates forecasts and stress scenarios for the three macro variables included in the VEC-model.	The VEC-model is used to forecast a stressed EDF by conditioning the model on ad-hoc stressful scenario based on the DSGE model.	- <i>Conditioned or stressed EDFs</i> - <i>The conditioned or stressed EDFs are also used as inputs for the simulation of a credit loss distribution</i>	Åsberg and Shahnazarian (2008) Riksbank Financial Stability Report (2006)
Swiss National Bank	logit transformation of the LLP ratio	- <b>GDP growth</b> - unemployment rate - level of 3m IR - corporate bond spread - bank control variables	1987-2004; static and dynamic panel estimation		Macroeconomic variables are replaced by the values assumed in the stress scenarios. Given an initial shock to one of those variables, the change in the remaining variables is determined through historical correlations	<i>Loan loss provisions</i>	Lehmann-Manz (2006)

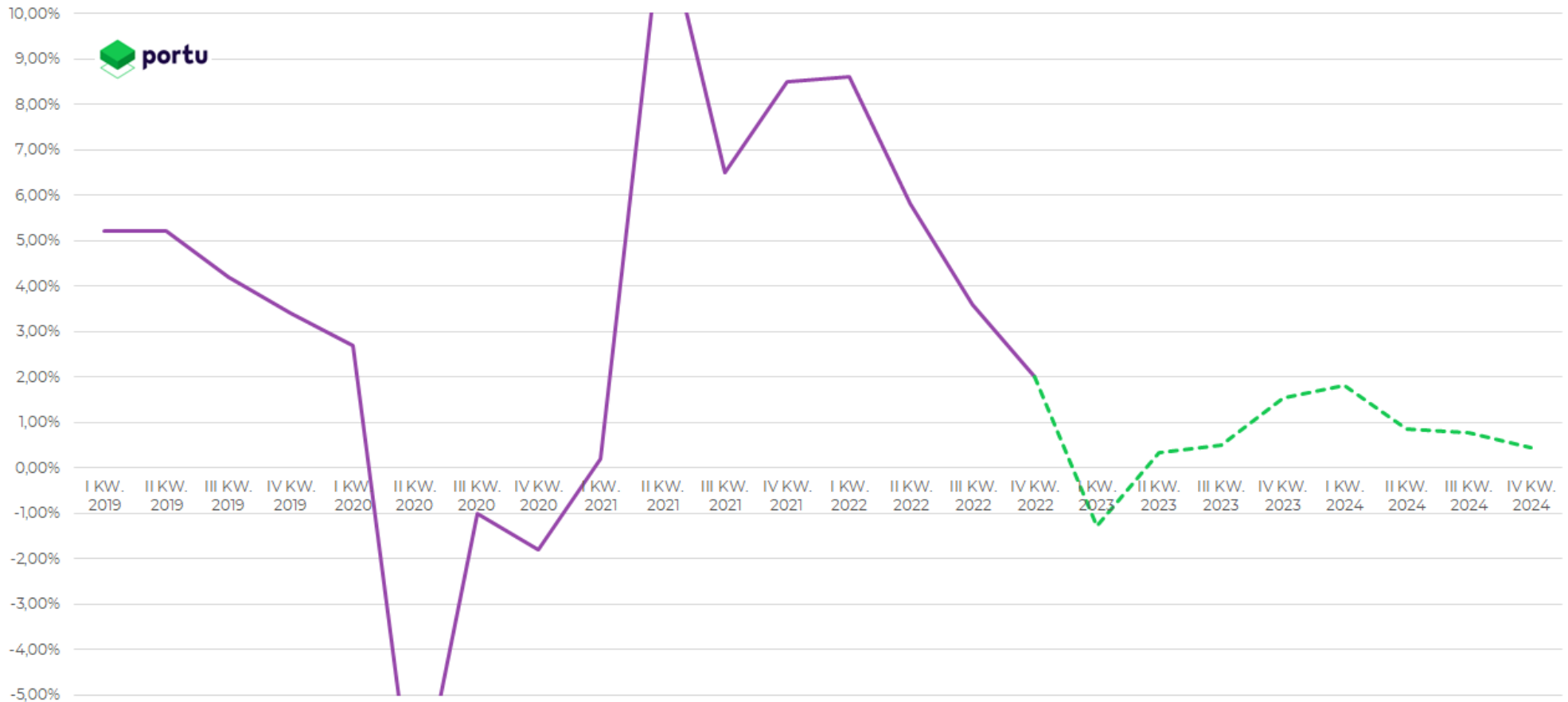






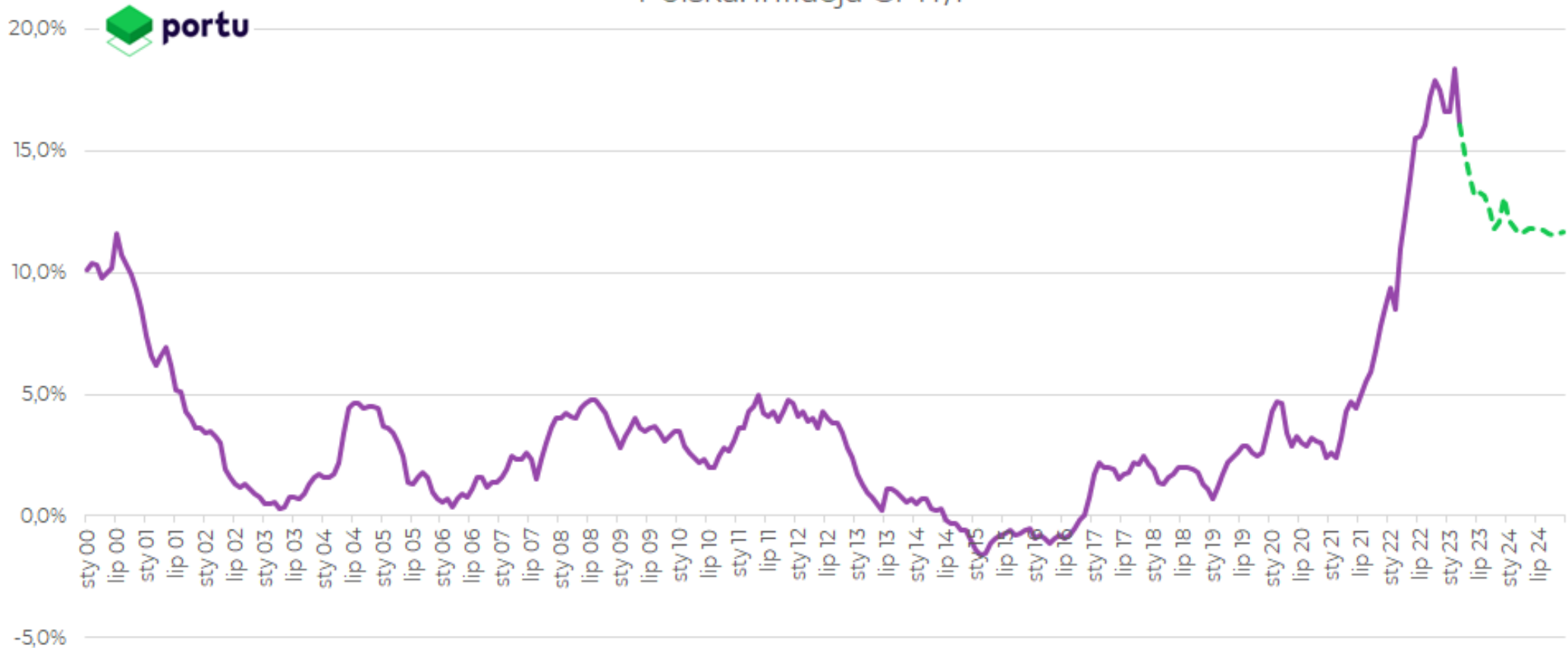


Polska: wzrost realnego PKB r/r



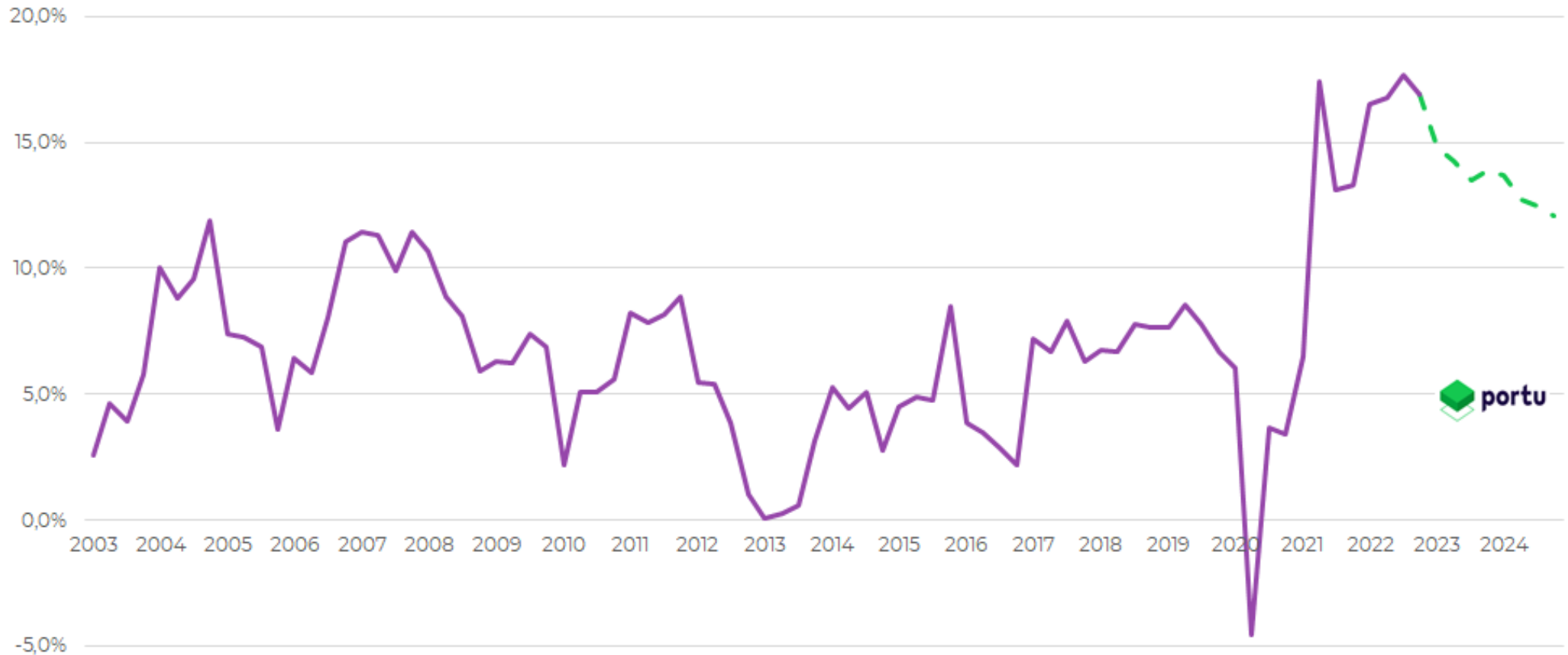
- Mocno rozchwiany cykl koniunkturalny post-covid
- Spowolnienie realnej gospodarki pod ciężarem inflacji (dołek w 1Q23)
- Odbicie powolne i nietrwałe

Polska: inflacja CPI r/r



- Szybkie zejście z „górkę” inflacji na efektach bazy
- Zakotwiczenie inflacji nieznacznie poniżej dynamiki płac (dodanie płace realne)
- Problem co dalej?

## Polska: nominalny wzrost PKB



- Stopniowe zejście z astronomicznego wzrostu nominalnego PKB
- Nominalny PKB nadal jednak >10%
- Historycznie bardzo wysokie poziomy wspierające niższe ryzyko kredytowe

## WZROST CZASU WOLNEGO

## YOLO

## NEARSHORING

(+)

- segment usług (czasu wolnego)
- travel & leisure (YOLO)
- produkcja dóbr inwestycyjnych (nearshoring)

## NAWIS DÓBR POST-COVID

## WZROST STÓP PROCENTOWYCH

## KOSZTY ENERGII

(-)

- Przetwórstwo przemysłowe (np. papier)
- Surowce basic materials
- Real estate



# portu

by WOOD & Company

# DZIĘKUJĘ ZA UWAGĘ.

Lepsze miejsce  
dla Twoich pieniędzy

