# Trading Floor: praktičan pristup

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I. Upoznavanje sa investicionom analizom



- Fundamentalna analiza predstavlja pristup predviđanja cena hartija od vrednosti na bazi uticaja fundamentalnih faktora iz ekonomskog okruženja
- Npr. vrednovanje akcija na bazi očekivanih dividendi (Gordonov model), vrednovanje obveznica na bazi diskontovanja kupona i nominalne vrednosti, vrednovanje fjučersa na bazi cene aktive u osnovi i neto troškova držanja investicione pozicije...

- Tehnička analiza podrazumeva predviđanje kretanja cena finansijskih instrumenata u budućnosti na osnovu njihovih kretanja u prošlosti (i eventualno na osnovu kretanja obima trgovanja u prošlosti)
- Npr. predviđanje da će cena neke HoV da poraste jer uočavamo obrazac kretanja cene (i eventualno obima trgovanja) koji se već dešavao u prošlosti

- Pored predviđanja koja možete napraviti korišćenjem ove dve analize, važno je da uzmete u obzir i dubinu tržišta (Depth of Market)
- Ona pokazuje ponudu i tražnju za određenim instrumentom po različitim cenama, što je značajno da bi se sagledalo da li će nalog moći lako da se realizuje (da li na tržištu postoji druga strana). Takođe, ako primetite da postoji velika ponuda/tražnja na nivou neke cene, to predstavlja dodatnu informaciju koja može da se uzme u obzir prilikom kreiranja strategije

- Fundamentalna i tehnička analiza nisu međusobno isključive - najbolje je kombinovati ih
- Npr. pretpostavimo da ste analitičar za akcije u nekom fondu. Vi ste fundamentalnom analizom procenili da je vrednost akcije A u intervalu \$95-\$100. Kako se cena te akcije na tržištu trenutno kreće oko \$90, Vi dajete preporuku da se ta akcija kupi. Ukoliko portfolio menadžer zaključi da se ta investicija uklapa u portfolio fonda, sledi kupovina te akcije koju obavlja Vaš kolega čiji je posao trejding. On sada razmatra putem tehničke analize kako da kupi tu akciju po najpovoljnijoj ceni u toku dana. To je naročito važno ako treba da kupi jako veliki broj akcija A, kako ta kupovina ne bi podigla njenu cenu i učinila investiciju neisplativom

- Fundamentalna i tehnička analiza se mogu koristiti i odvojeno, ali to daje lošije rezultate
- Ako koristite samo fundamentalnu analizu, propustićete priliku da ostvarite veći prinos usled kupovine HoV po povoljnijim cenama
- Ako koristite samo tehničku analizu, RIZICI SU VELIKI. Važni događaji koji utiču na vrednost HoV su uvek značajniji od prethodnih obrazaca u kretanju cene HoV. Dakle, ako propustite da pratite važne informacije koje utiču na fundamentalnu vrednost HoV, rizikujete da uđete u poziciju i ostvarite ogromne gubitke

Fundamentalni faktori koji utiču na vrednost HoV

- Fundamentalnim faktorom se može smatrati sve za šta očekujemo da utiče na intrinzičnu (pravu) vrednost HoV
- Npr. informacije iz finansijskih izveštaja, nivo kamatnih stopa, inflacija, ali i druge informacije
- Zamislite da kupujete fjučers na vreme (Weather Futures). Kretanje vremenskih uslova je u tom slučaju fundamentalni faktor koji treba da pratite

Fundamentalni faktori koji utiču na vrednost HoV

- **Fundamentalni faktori** mogu da budu od:
- sistematskog značaja faktori koji u većoj ili manjoj meri utiču na sve učesnike u privredi (privredni rast, inflacija, nezaposlenost, nivo kamatnih stopa, devizni kurs...)
- značaja za konkretnu HoV (ili emitenta) faktori koji su specifični za jednog emitenta/HoV (EPS kompanije za neku akciju, kreditni rizik za neku obveznicu, suša za fjučers na pšenicu...)

# Informacije za izučavanje fundamentalnih faktora

- Svi izvori informacija koje utiču na fundamentalnu vrednost mogu da se koriste. Izvori npr. mogu biti:
- https://www.investing.com/
- https://finviz.com/
- https://finance.yahoo.com/
- Svi ovi sajtovi služe i kao portali za vesti iz oblasti finansija/ekonomije

# Investing.com

- Na ovom sajtu su pre svega interesantni:
- Kalendari na jednom mestu pokazuju sve značajne objave koje se odnose na sistematske faktore po različitim zemljama (Economic Calendar) ili objave koje se odnose na pojedinačne emitente (Earnings, Dividends, IPO)
- Kalkulator profita (Profit Calculator) koristi se za brzi obračun ostvarenog profita na poziciji u fjučersu (Futures Profit Calculator)

Economi	c Calendar	Holidays	Earning	s Divider	nds S	plits	IPO	Expiration	ו	
		٠	Buy		•	Sell				
Yesterday	Today	Tomorrow	This Week	Next Week	曲					•
Current T	īme: <b>06:04</b> (G	GMT -4:00) 🐱				All	data are	streaming and u	updated automati	cally.
Time	Cur.	Imp.	Event				Actual	Forecast	Previous	
			Fr	iday, March	31, 2023					
01:00	JPY	* 🕁 🕁	Constru	uction Orders	(YoY) (Fe	eb)	22.3%	5.1%	-14.0%	
01:00	JPY	* \$\phi \$\phi\$	Housin	g Starts (YoY	) (Feb)		-0.3%	-0.5%	6.6%	
02:00	👬 GBP	***	Busine	ss Investment	t (QoQ) (C	24)	-0.2%	4.8%	0.1%	
02:00	∺ GBP	★ ☆ ☆	Busine	ss Investment	t (YoY) (Q	4)	10.8%	13.2%	8.0%	
02:00	쁆 GBP	***	Current	Account (Q4	.)		-2.5B	-17.6B	-12.7B	
02:00	🏶 GBP	***	GDP (Y	′oY) (Q4)			0.6%	0.4%	0.2%	
02:00	🏶 GBP	***	GDP (0	QoQ) (Q4)			0.1%	0.0%	-0.3%	
02:00	👬 GBP	***	Nation	vide HPI (Mol	M) (Mar)		-0.8%	-0.3%	-0.5%	
02:00	👬 GBP	***	Nation	vide HPI (YoY	') (Mar)		-3.1%	-2.2%	-1.1%	
02:00	EUR	* \$\$ \$\$	Germa (MoM)	n Import Price (Feb)	e Index		-2.4%	-1.0%	-1.2%	
02:00	EUR	* \$\phi \$\phi\$	Germa (YoY) (	n Import Price Feb)	e Index		2.8%	4.2%	6.6%	
02:00	EUR	* \$\$ \$\$	Germa	n Retail Sales	s (YoY) (Fe	eb)	-7.1%	-6.1%	-6.9%	

Ekonomski kalendar predstavlja pregled objava koje su zakazane za određeni trenutak u budućnosti (mogu se pogledati i prethodne objave), a utiču na vrednost više različitih instrumenata

Različite objave su važne za različite instrumente, npr. objava centralne banke o promeni referentne kamatne stope je važna za obveznice kojima se trguje na geografski povezanom tržištu

#### TRADING FLOOR, DEO I

Yesterday	Today Tomorrow This Week	Next Week 🛗	₩ Filters
	Search: Event Name	Q,	
Country:	🗌 🔳 Albania	🗌 🌇 Angola	
Select All	🗌 🔤 Argentina	🗌 🔣 Australia	
Clear	🗌 🗮 Austria	🗌 🚾 Azerbaijan	
	🗌 📒 Bahrain	🗋 🔳 Bangladesh	
	🗌 📕 Belgium	🗌 📉 Bosnia-Herzegovina	
	🗌 🚍 Botswana	🗌 🔯 Brazil	
	🗌 💼 Bulgaria	🗌 🛃 Canada	
	🗌 🏭 Cayman Islands	🗋 늘 Chile	
	🗌 🔚 China	🗌 📥 Colombia	
	🗌 🗮 Costa Rica	Cote D'Ivoire	
	🗌 🚾 Croatia	🗌 💌 Cyprus	
	🗌 🍗 Czech Republic	Denmark	
	🗌 📷 Ecuador	🗌 🚾 Egypt	
	🗋 💻 Estonia	🗹 👿 Euro Zone	
	🗋 🛨 Finland	France	
	🗌 📕 Germany	🗋 🚾 Ghana	

Klikom na Filters se otvara opcija da se izaberu geografska područja za koja smo zainteresovani, npr. Evrozona, SAD...

	<ul> <li>Sweden</li> <li>Taiwan</li> <li>Thailand</li> <li>Turkiye</li> <li>Vkraine</li> <li>Uhited Kingdom</li> <li>Uruguay</li> <li>Venezuela</li> <li>Zambia</li> </ul>	<ul> <li>Switzerland</li> <li>Tanzania</li> <li>Tunisia</li> <li>Uganda</li> <li>United Arab Emirates</li> <li>United States</li> <li>Uzbekistan</li> <li>Vietnam</li> <li>Zimbabwe</li> </ul>	
Time:	<ul> <li>Display time remaining unti</li> <li>Display time only</li> </ul>	l announcement	
Category: Select All Clear	<ul> <li>Employment</li> <li>Credit</li> <li>Balance</li> </ul>	<ul> <li>Economic Activity</li> <li>Central Banks</li> <li>Bonds</li> </ul>	<ul> <li>Inflation</li> <li>Confidence Index</li> </ul>
Importance:	$\Box \bigstar \heartsuit \bigtriangledown$	□★★∀	<b>⊘</b> ★★★

Apply

C Restore Default Settings

Takođe, moguće je izabrati kategoriju kojoj vest pripada, kao i značaj vesti (tri zvezdice predstavljaju najvažnije vesti, ostale su manje važne)



Current Time:06:07 (GMT -4:00) 🐱

All data are streaming and updated automatically.

Time	Cur.	Imp.	Event	Actual	Forecast	Previous
			Friday, March 31, 2023			
05:00	EUR	***	CPI (YoY) (Mar) p	6.9%	7.1%	8.5%
08:30	📕 USD	***	Core PCE Price Index (MoM) (Feb)		0.4%	0.6%
11:00	EUR	***	ECB President Lagarde Speaks			

Kada se primene odabrani filteri, u konkretnom primeru ostaju navedene tri vesti. U zavisnosti od toga koji instrument Vas interesuje, one mogu, ali ne moraju da budu važne. Npr. obraćanje predsednice ECB može da bude značajno ako Vas zanimaju evropske obveznice, ali ne i za fjučers na vreme

Yesterday	Today	Tomorrow	This Week	Next Week	Ш			\Xi Filters	~
③ Current Time: 12:09 (GMT +2:00) ↓			1			All data are	streaming and u	pdated automation	cally.
Time	Cur.	lmp.	Event			Actual	Forecast	Previous	
Friday, March 31, 2023									
11:00	🔲 EUR	***	CPI (Yo	oY) (Mar) ႃ		6.9%	7.1%	8.5%	
14:30	📕 USD	***	Core P (Feb)	CE Price Inde	x (MoM)		0.4%	0.6%	
17:00	EUR	***	ECB P	resident Lagai	de Speał	(S			

Treba da izaberete vremensku zonu u kojoj se nalazite da biste znali kad da očekujete vest



Current Time:12:24 (GMT +2:00) •

All data are streaming and updated automatically

Time	Cur.	Imp.	Event	Actual	Forecast	Previous		
			Tuesday, March 28, 2023					
15:15	EUR	***	ECB President Lagarde Speaks					
16:00	USD	***	CB Consumer Confidence (Mar)	104.2	101.0	103.4		
Wednesday, March 29, 2023								
16:00	📕 USD	***	Pending Home Sales (MoM) (Feb)	0.8%	-2.3%	8.1%		
16:30	USD	***	Crude Oil Inventories	-7.489M	0.092M	1.117M		
			Thursday, March 30, 2023					
14:30	📕 USD	***	GDP (QoQ) (Q4)	2.6%	2.7%	3.2%		
14:30	📕 USD	***	Initial Jobless Claims	198K	196K	191K		
			Friday, March 31, 2023					
11:00	EUR	***	CPI (YoY) (Mar) p	6.9%	7.1%	8.5%		
14:30	📕 USD	***	Core PCE Price Index (MoM) (Feb)		0.4%	0.6%		
17:00	EUR	***	ECB President Lagarde Speaks					

 Možete pogledati kada se očekuju objave za neki drugi period, npr. za celu nedelju, ne samo za današnji dan

- Npr. 30. marta su se objavile dve važne vesti koje mogu da imaju značajan uticaj na američko tržište u celini (informacije o BDP-u i o nezaposlenosti) ukoliko su iznenađujuće
- Ako trgujete fjučersom na S&P 500 (koji je povezan sa američkim tržištem), pre 30. marta u 14:30 je trebalo da obeležite da će se tada objaviti važne vesti - one mogu biti mnogo značajnije nego bilo šta drugo za cenu fjučersa u tom trenutku



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### Earnings Calendar

Economic	Calendar	Holidays	Earnings	Dividen	ds	Splits	IPO	Expiration		
Yesterday	Today	Tomorrow	This Week	Next Week	雦				ŧ	Filters

Company ≑	EPS / Forecast	Revenue / Forecast	Market Cap 💲	Time ‡
	Friday, March 3	1, 2023		
Citic ADR (CTPCY)	/	/	34.10B	*
Tatneft ADR (OAOFY)	/	/ 4.85B	10.61B	
Industrias Penoles (IPOAF)	/ -0.055	/	5.91B	
Sprott Physical Gold (CEF)	/	/	4.08B	
Reata Pharma ( <b>RETA</b> )	<b>-2.33</b> / -2.32	/ 491.43K	3.31B	
Lithium Americas (LAC)	/ -0.2171	/ 0.00	3.24B	
MSP Recovery (LIFW)	/ 0.69	/ 303.98M	2.83B	6
Rostelekom DRC (ROSYY)	/	/ 2.44B	2.63B	
Embotelladora Andina (AKOa)	/ 0.3841	/ 948.73M	2.22B	
Embotelladora Andina (AKOb)	/ 0.3841	/ 948.73M	2.22B	
Burford (BUR)	/ 0.28	/ 149.8M	1.55B	

Pored ekonomskog kalendara, na ovom sajtu možete naći i kalendar objave rezultata različitih emitenata

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Tomorrow This Week Next Week Today Yesterday

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Filters

Company ‡	EPS / Forecast	Revenue / Forecast	Market Cap 🗘	Time ‡				
Tuesday, April 11, 2023								
📕 CarMax ( <b>KMX</b> )	/ 0.204	/ 6.07B	9.66B	*				
Thursday, April 13, 2023								
Fastenal (FAST)	/ 0.4977	/ 1.85B	30.15B	*				
Delta Air Lines (DAL)	/ 0.3308	/ 12.08B	21.77B					
Friday, April 14, 2023								
UnitedHealth (UNH)	/ 6.17	/ 89.56B	438.49B	*				
JPMorgan ( <b>JPM</b> )	/ 3.43	/ 35.95B	378.96B	*				
Wells Fargo&Co (WFC)	/ 1.14	/ 20.16B	141.19B					
Citigroup (C)	/ 1.68	/ 20B	89.67B	*				
PNC Financial (PNC)	/ 3.71	/ 5.63B	50.77B	*				
First Republic Bank (FRC)	/ 0.0869	/ 1.31B	2.55B					

Npr. vidimo da 14. aprila dosta banaka objavljuje svoje kvartalne rezultate. Ako ste zainteresovani za akcije neke od njih, svakako treba da pratite tu objavu

**Dividend Calendar** 

Economic	Calendar	Holidays	Earnings	Dividends	Splits	IPO	Expiration	
Yesterday	Today	Tomorrow	This Week	Next Week	±			Ŧ

Company 🛊	Ex-Dividend Date	Dividend 🗘	Type ‡	Payment Date 💲	Yield ‡				
Friday, March 31, 2023									
Acres Commercial Re (ACR_pc)	Mar 31, 2023	0.5390625	_3M	May 01, 2023	10.47%				
Acres Commercial Re (ACR_pd)	Mar 31, 2023	0.4921875	_3M	May 01, 2023	10.01%				
Air Products (APD)	Mar 31, 2023	1.75	_3M	May 08, 2023	2.55%				
Algonquin Power & Ut (AQNA)	Mar 31, 2023	0.4297	_3M	Apr 17, 2023	-				
Andritz ADR (ADRZY)	Mar 31, 2023	0.283716	_0	Apr 20, 2023	2.25%				
Armada Hoffler Prope (AHH_pa)	Mar 31, 2023	0.421875	_3M	Apr 14, 2023	7.76%				
Banco de Sabadell ADR (BNDSY)	Mar 31, 2023	0.030679	_0	Apr 17, 2023	2.99%				
BRP Inc (DOOO)	Mar 31, 2023	0.1308139	_3M	Apr 17, 2023	0.69%				
Cardinal Health (CAH)	Mar 31, 2023	0.4957	_3M	Apr 15, 2023	2.74%				

Postoji i kalendar za objavu dividendi. Slično kao i kod rezulatata kompanija, želite da pratite ove objave za emitente koji su Vam važni

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Filters

### **IPO Calendar**

Apr 04, 2023

👬 Ocean Harvest ... (OCE)

Economic Cale	ndar Holidays Earnings	Dividends Splits	IPO Expirat	ion	
Upcoming Rea	cent 🔛			≢ Filter	rs 🗸
IPO Listing ‡	Company ‡	Exchange ‡	IPO Value ‡	IPO Price ‡	Last
Mar 22, 2023	Mangoceuticals (MNGO)	NASDAQ	5.0M	4.00	1.45
Mar 22, 2023	Ohmyhome Inc (OMH)	NASDAQ	13.0M	4.00	4.22
Mar 29, 2023	Yangufang Inter (YGF)	NASDAQ	20.0M	4.00	3.80
Mar 30, 2023	Golden Heaven (GDHG)	NASDAQ	10.0M	4.00-5.00	-
Mar 30, 2023	Shengfeng Dev (SFWL)	NASDAQ	15.0M	4.00-5.00	-
Mar 30, 2023	Global Mofy Met (GMM)	NASDAQ	6.6M	4.50-5.50	-
Mar 30, 2023	Elephant Oil Inc (ELEP)	NASDAQ	7.2M	4.00-5.00	-
Mar 30, 2023	Chanson Int Inc (CHSN)	NASDAQ	22.5M	4.00-6.00	2.45
Mar 30, 2023	Jin Medical Int Ltd (ZJYL)	NASDAQ	11.3M	8.00-9.00	7.65
Mar 30, 2023	Millennium Group (MGIH)	NASDAQ	5.0M	4.00	-
Mar 31, 2023	Syla Technologi (SYT)	NASDAQ	15.0M	8.00	-
Mar 31, 2023	Trio Petroleum Inc (TPET)	NASDAQ	6.9M	3.00-4.00	-
Mar 31, 2023	Ispire Technolog (ISPR)	NASDAQ	24.0M	6.00-8.00	-

London

 IPO kalendar Vas obaveštava o inicijalnim javnim ponudama kompanija

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### **Futures Expiry Calendar**



Economic Calendar Holidays Earni	ngs Dividends	Splits	IPO Expira	ation
Last Week This Week Next Week This	Month 🛗			₩ Filters 🗸
Instrument ‡	Contract ‡	Month ‡	Settlement ‡	Last Rollover 🗧
Torrent Power	TOPOc1:NS	Mar 23	Mar 29, 2023	
EBOT 30-DAY Federal Fund c1	FFc1	Mar 23	Mar 31, 2023	
Ether Futures	HTEc1	Mar 23	Mar 31, 2023	
German PXE Base Day Energy c1	DBc1	Mar 23	Mar 31, 2023	
Italian Base Day Energy c1	FDc1	Mar 23	Mar 31, 2023	
French Base Day Energy c1	F7c1	Mar 23	Mar 31, 2023	
🏭 Brent Oil WTI c1	LCOc1	May 23	Mar 31, 2023	
Heating Oil c1	HOc1	Apr 23	Mar 31, 2023	
T NCDEX Guarex Index F	NGURXc1	Mar 23	Mar 31, 2023	
<b>E</b> Rotterdam Coal	ATWMc1	Mar 23	Mar 31, 2023	
🚟 Newcastle Coal	NCFMc1	Mar 23	Mar 31, 2023	
Iron Ore CFR China 62% Fe Fines	SGXIOSc1	Mar 23	Mar 31, 2023	
TRFX20 F	RFOc1	Mar 23	Mar 31, 2023	Oct 24, 2021
📰 MCX Mentha Oil	MMOc1	Mar 23	Mar 31, 2023	Nov 28, 2021
<b>MCX Zinc</b>	MZIc1	Mar 23	Mar 31, 2023	Nov 28, 2021

Futures Expiry Calendar Vam daje datume isteka različitih fjučersa. Ukoliko želite da "ostanete" u fjučersu treba na vreme da se informišete da biste ga zamenili drugim koji ima duži rok dospeća (Rollover)

### **Profit Calculator**

Forex Profit Calculator	Futures Profit Calculator		
Search:	Futures Name		Q
Account Currency:	USD V	Contract Size:	
Action:	Buy/Long 🗸	Tick Size:	
Number of contracts:		Tick Value:	
Opening trade price:		Point Value:	
Closing trade price:			
	🛁 Calcu	late <sup>5</sup> Clear	
P/L	P/L	Ticks	P/L Points

Osim kalendara, na ovom sajtu se mogu naći i različiti kalkulatori, npr. kalkulator profita

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Pomoću njega može brzo da se izračuna profit ostvaren na trgovini fjučersima (ili valutama)

### **Profit Calculator**

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Forex Profit Calculator	Futures Profit Calculator									
Search:	S&P 500 Futures		Q,							
Account Currency:	USD 🗸	Contract Size:	\$50 x Index Price							
Action:	Buy/Long 🗸	Tick Size:	0.25							
Number of contracts:	5	Tick Value:	12.5							
Opening trade price:	4080.75	Point Value:	\$50							
Closing trade price:	4086.75									
→ Calculate ⊃ Clear										
P/L	P/L	Ticks	P/L Points							
\$1500	2	24	6							

- Ako računamo profit fjučersa, prvo treba da izaberemo fjučers kojim trgujemo (npr. na S&P 500)
- U narandžastom pravougaoniku su informacije o načinu na koji se izražava cena fjučersa. One su različite za svaki tip fjučersa, pa je potrebno informisati se pre trgovine. Ovaj kalkulator ih automatski uključuje na osnovu izabranog fjučersa
- Cene fjučersa su izražene u poenima, koji se dele na tikove (u pitanju je najmanji iznos za koji cena fjučersa može da se promeni)
- Za ovaj fjučers, vrednost jednog tika je \$12.5

### **Profit Calculator**

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Forex Profit Calculator	Futures Profit Calculator									
Search:	S&P 500 Futures		Q,							
Account Currency:	USD V	Contract Size:	\$50 x Index Price							
Action:	Buy/Long 🗸	Tick Size:	0.25							
Number of contracts:	5	Tick Value:	12.5							
Opening trade price:	4080.75	Point Value:	\$50							
Closing trade price:	4086.75									
→ Calculate つ Clear										
P/L	P/I	_ Ticks	P/L Points							
\$1500		24	6							

\* obratite pažnju na to da tačka i zarez imaju suprotno značenje u obračunu od naše konvencije

- Treba uneti i ostale podatke: valutu u kojoj je račun preko kog trgujete, da li ulazite u *long* ili *short* poziciju, broj ugovora kojima trgujete, cenu po kojoj ste ušli u fjučers i cenu po kojoj ste izašli
- Na osnovu ovih podataka, kalkulator izračunava Vaš profit
- U konkretnom primeru ste izašli iz long pozicije uz dobitak od 6 poena po ugovoru (4086.75 - 4080.75 = 6)
- Kako ste imali 5 ugovora i kako je vrednost jednog poena kod ovog fjučersa \$50, Vaš dobitak je \$1,500 (6 \* 5 \* 50 = 1,500)

Indices	Commodities	Bonds	Stocks	Indices Cor	mmodities	Bonds	Stocks	Indices Com	modities	Bonds	Stocks	Indices Co	ommodities	Bonds	Stocks
1D 1W	1M 6M 1Y	<u>5Y</u>	Max	1D 1W 1N	M 6M 11	<u>5Y</u>	Max	1D 1W 1M	6M 1)	<u>5Y</u>	Max	1D 1W 1	M 6M 1Y	<u>5Y</u>	Max
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	w www	Murra	25,000.0 20,000.0	Month	N mw		50.00	M	h	M	2.000	~~~~~	M	N	100.00 50.00
	2020		2022		2020		2022	2	2020		2022		2020		2022
US 30	2020 32,933.6	+74.6	2022 +0.23% ()	Crude Oil WTI	2020 74.31	-0.06	2022 -0.08% ()	2 U.S. 10Y	3.566	+0.015	2022 +0.42% <b>⊘</b>	Apple	2020 162.36	+1.59	2022 +0.99% ()
US 30 US 500	2020 32,933.6 4,057.2	+74.6	2022 +0.23% () +0.16% ()	Crude Oil WTI Brent Oil	2020 74.31 78.71	-0.06 +0.11	2022 -0.08% () +0.14% ()	U.S. 10Y U.S. 30Y	3.566 3.756	+0.015 +0.010	2022 +0.42% (2) +0.27% (2)	Apple Alphabet A	2020 162.36 100.89	+1.59	2022 +0.99% (2) -0.49% (2)
US 30 US 500 Dow Jones	2020 32,933.6 4,057.2 32,859.03	+74.6 +6.4 +141.43	2022 +0.23% () +0.16% () +0.43% ()	Crude Oil WTI Brent Oil Natural Gas	2020 74.31 78.71 2.110	-0.06 +0.11 +0.006	2022 -0.08% ① +0.14% ① +0.29% ③	U.S. 10Y U.S. 30Y U.S. 5Y	3.566 3.756 3.6958	+0.015 +0.010 +0.0330	2022       +0.42%       +0.27%       +0.90%	Apple Alphabet A Tesla	2020 162.36 100.89 195.28	+1.59 -0.50 +1.40	2022 +0.99% ① -0.49% ① +0.72% ②
US 30 US 500 Dow Jones S&P 500	2020 32,933.6 4,057.2 32,859.03 4,050.83	+74.6 +6.4 +141.43 +23.02	2022 +0.23% ③ +0.16% ④ +0.43% ④ +0.57% ④	Crude Oil WTI Brent Oil Natural Gas Gold	2020 74.31 78.71 2.110 1,996.30	-0.06 +0.11 +0.006 -1.40	2022 -0.08%	U.S. 10Y U.S. 30Y U.S. 5Y U.S. 3M	3.566 3.756 3.6958 4.9549	+0.015 +0.010 +0.0330 +0.1410	2022       +0.42%       +0.27%       +0.90%       +2.93%	Apple Alphabet A Tesla Amazon.com	2020 162.36 100.89 195.28 102.00	+1.59 -0.50 +1.40 +1.75	2022 +0.99% () -0.49% () +0.72% () +1.75% ()
US 30 US 500 Dow Jones S&P 500 Nasdaq	2020 32,933.6 4,057.2 32,859.03 4,050.83 12,013.47	+74.6 +6.4 +141.43 +23.02 +87.24	2022 +0.23% ① +0.16% ① +0.43% ① +0.57% ① +0.73% ①	Crude Oil WTI Brent Oil Natural Gas Gold Silver	2020 74.31 78.71 2.110 1,996.30 24.023	-0.06 +0.11 +0.006 -1.40 +0.034	2022 -0.08% ① +0.14% ① +0.29% ① -0.07% ① +0.14% ①	U.S. 10Y U.S. 30Y U.S. 5Y U.S. 3M US 10Y T-Note	3.566 3.756 3.6958 4.9549 114.44	+0.015 +0.010 +0.0330 +0.1410 -0.14	2022         +0.42%       •         +0.27%       •         +0.90%       •         +2.93%       •         -0.12%       •	Apple Alphabet A Tesla Amazon.com Netflix	2020 162.36 100.89 195.28 102.00 338.43	+1.59 -0.50 +1.40 +1.75 +6.40	2022 +0.99% (2) -0.49% (2) +0.72% (2) +1.75% (2) +1.93% (2)
US 30 US 500 Dow Jones S&P 500 Nasdaq S&P 500 VIX	2020 32,933.6 4,057.2 32,859.03 4,050.83 12,013.47 19.24	+74.6 +6.4 +141.43 +23.02 +87.24 +0.22	2022 +0.23% ③ +0.16% ④ +0.43% ③ +0.57% ④ +0.73% ④ +1.16% ④	Crude Oil WTI Brent Oil Natural Gas Gold Silver Copper	2020 74.31 78.71 2.110 1,996.30 24.023 4.0560	-0.06 +0.11 +0.006 -1.40 +0.034	2022 -0.08% ○ +0.14% ○ +0.29% ○ -0.07% ○ +0.14% ○ -0.87% ○	U.S. 10Y U.S. 30Y U.S. 5Y U.S. 3M US 10Y T-Note Euro Bund	3.566 3.756 3.6958 4.9549 114.44 135.00	+0.015 +0.010 +0.0330 +0.1410 -0.14 -0.37	2022         +0.42%       •         +0.27%       •         +0.90%       •         +2.93%       •         -0.12%       •         -0.27%       •	Apple Alphabet A Tesla Amazon.com Netflix Meta Platforms	2020 162.36 100.89 195.28 102.00 338.43 207.84	+1.59 -0.50 +1.40 +1.75 +6.40 +2.49	2022 +0.99% (2) -0.49% (2) +0.72% (2) +1.75% (2) +1.93% (2) +1.21% (2)

Pored pomenutih informacija, na ovom sajtu se mogu naći još neke, npr. brzi pregledi indeksa, roba, obveznica, akcija i dr.

### Finviz.com

- Na ovom sajtu su pre svega interesantni:
- 1. mape (Maps) brzi vizuelni pregled tržišta
- 2. alat za filtriranje akcija (*Screener*) omogućava nalaženje akcija koje ispunjavaju zadate kriterijume

### Finviz.com

- Na narednom slajdu će biti prikazana toplotna mapa (*Heat Map*) koja prikazuje sve kompanije koje su uključene u S&P 500 indeks. Kompanije su grupisane po sektorima, a veličina pravougaonika kojim su predstavljene odgovara njihovoj tržišnoj kapitalizaciji
- Za najveće kompanije se odmah vide 3 podatka: tiker (npr. MSFT), jednodnevni rast cena akcija (npr. +1.26%) i boja koja označava jačinu rasta ili pada (svetla zelena/crvena označavaju izražen rast/pad)



Mapa ne mora da prikazuje S&P 500. Možete npr. da odaberete opciju *World* koja daje podatke za svet (bez SAD-a)



Takođe, može da se izabere da mapa pokazuje nešto drugo, a ne samo jednodnevni rast cene akcije. Npr. može da se izabere duži rok ili P/E racio



Ako se izabere P/E racio, komanije postaju "sve crvenije" što je njihov P/E racio viši. Međutim, to ne znači da je visok racio loš - neophodno je izvršiti poređenje sa konkurencijom, pošto je nivo ovog racia u velikoj meri određen delatnošću



Druga varijanta vizuelnog prikaza su *Bubbles*. Veličina jednog "balona" odgovara tržišnoj kapitalizaciji kompanije, a njegova visina na grafiku odgovara stopi rasta. Boje označavaju različite sektore



#### Home News Screener Maps Groups Portfolio Insider Futures Forex Crypto Backtests Elite

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Image         Image <t< td=""><td>1</td><td>Market Cap.</td><td>Any</td><td>~</td><td>Dividend Yield</td><td>Any</td><td>· •</td><td>Float</td><td>Short</td><td>Any</td><td>~</td><td>Analys</td><td>st Recom.</td><td>Any</td><td></td><td>~</td><td>Option/Short</td><td>Any</td><td>~</td></t<>	1	Market Cap.	Any	~	Dividend Yield	Any	· •	Float	Short	Any	~	Analys	st Recom.	Any		~	Option/Short	Any	~
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Verview       Valuation       Financial       Ownership       Performance       Technical       Custor       Charts       Tickers       Basic       TA       News       Snapcht       EBM page 1/413       State         Total:       2.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.22 ±1       5.2 ±1       5.2 ±1       5.2 ±1       5.2 ±1       5.2 ±1       5.2 ±1		Target Price	Any	~	IPO Date	Any	/ ~	Shares O	utstanding	Any	~	F	loat	Any		~			Reset (0)
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8AADIAadi Bioscience, Inc.HealthcareBiotechnologyUSA174.34M	7	AACIW	Armada Acquis	sition Corp. I			Financial	Shell Companies				ι	JSA		-	-	0.11	0.00%	3,850
AADRAdvisorShares Dorsey Wright ADR ETFFinancialExchange Traded FundUSAImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImageImage	8	AADI	Aadi Bioscience	e, Inc.			Healthcare		Biotechnolo	gy		ι	JSA		174.34M	-	7.11	-0.14%	243,547
AAICArington Asset Investment Corp.Real EstateREIT - MortgageUSA77.10M44.522.7.42.2.4%37.12711AALAmerican Airlines Group Inc.IndustrialsAirlinesAirlinesUSA9.368131.5514.470.84%13.673,51812AAMEAtlantic American CorporationFinancialInsurance - LifeUSA0.50.00M19.072.490.404%1.92413AANThe Aaron's Company, Inc.IndustrialsRental & Leasing ServicesUSA0.77.16M0.69.121.00%623.92114AAOIApplied Optoelectronics, Inc.TechnologySemiconductorsUSA0.57.26M0.69.190.103%245.25815AAONAAON, Inc.IndustrialsBuilding Products & EquipmentUSA0.51.4851.219.4000.13.63245.25816AAPAdvance Auto Parts, Inc.Consumer CyclicalSpecialty RetailUSAUSA7.05B14.4518.660.90%1.368,66017AAPDDirexion Daily AAPL Bear 1X SharesFinancialConsumer ElectronicsUSA0.54.6824.060.90%1.366,86118AAPLApple Inc.TechnologyConsumer ElectronicsUSAUSA2.54.680.90%4.95.01.6819AAPLApple Inc.TechnologyConsumer ElectronicsUSAUSA2.54.680.90%4.95.01.6819AAPLApple Inc.TechnologyConsumer E	9	AADR	AdvisorShares	Dorsey Wright	t ADR ETF		Financial		Exchange Traded Fund			ι	JSA		-	-	48.21	1.41%	60
AALAmerican Airlines Group Inc.IndustrialsAirlinesAirlinesUSA9.368131.5514.470.84%13,673,51812AAMEAtlantic American CorporationFinancialInsurance - LifeUSAS0.70019.762.49-0.40%1,92413AANThe Aaron's Company, Inc.IndustrialsRental & Leasing ServicesUSA0.84%277.16M0.9.1026.39,92114AAOIApplied Optoelectronics, Inc.TechnologySemiconductorsUSAUSA5.7.26M0.1.0.935.64%288,56515AAONAAON, Inc.IndustrialsBuilding Products & EquipmentUSA0.5.14B51.2194.990.136%245,25816AAPAdvance Auto Parts, Inc.Consumer CyclicalSpecialty RetailUSAUSA1.8.631.3.6517AAPDDirexion Daily AAPL Bear 1X SharesFinancialExchange Traded FundUSAUSA <td>10</td> <td>AAIC</td> <td>Arlington Asset</td> <td>t Investment (</td> <td>Corp.</td> <td></td> <td>Real Estate</td> <td></td> <td colspan="3">REIT - Mortgage</td> <td>ι</td> <td>JSA</td> <td></td> <td>77.10M</td> <td>41.52</td> <td>2.74</td> <td>2.24%</td> <td>37,127</td>	10	AAIC	Arlington Asset	t Investment (	Corp.		Real Estate		REIT - Mortgage			ι	JSA		77.10M	41.52	2.74	2.24%	37,127
AMEAtlantic American CorporationFinancialInsurance - LifeUSAS0.70M19.762.49-0.40%1.92413AANThe Aaron's Company, Inc.IndustrialsRental & Leasing ServicesUSA277.16M0.9.121.00%623.92114AAOIApplied Optoelectronics, Inc.TechnologySemiconductorsUSAUSA57.26M0.1.9.354.668288.56515AAONAAON, Inc.IndustrialsBuilding Products & EquipmentUSA0.51.4851.2194.900.13.8245.25816AAPAdvance Auto Parts, Inc.Consumer CyclicalSpecialty RetailUSAUSA7.05B14.45118.610.90%11.36.866017AAPDDirexion Daily AAPL Bear 1X SharesFinancialConsumer CyclicalConsumer ElectronicsUSA0.51.480.0.9.9%11.36.267018AAPLDirexion Daily AAPL Bear 1X SharesFinancialConsumer ElectronicsUSA0.54.560.57.580.9.9%14.95.267619AAPUDirexion Daily AAPL Bull 1.5X SharesFinancialExchange Traded FundUSAUSA1.0.660.4.90.4.4.90.44.410AAPUDirexion Daily AAPL Bull 1.5X SharesFinancialExchange Traded FundUSA1.0.680.4.90.4.4.90.4.4.90.4.4.90.4.4.90.4.4.90.4.4.90.4.4.90.4.4.90.4.4.90.4.4.90.4.4.90.4.4.90.4.4.90.4.4.90.4.4.9 </td <td>11</td> <td>AAL</td> <td>American Airlin</td> <td>nes Group Inc.</td> <td></td> <td></td> <td>Industrials</td> <td></td> <td colspan="3">Airlines</td> <td>L. L.</td> <td>JSA</td> <td></td> <td>9.36B</td> <td>131.55</td> <td>14.47</td> <td>0.84%</td> <td>13,673,518</td>	11	AAL	American Airlin	nes Group Inc.			Industrials		Airlines			L. L.	JSA		9.36B	131.55	14.47	0.84%	13,673,518
13AANThe Aaron's Company, Inc.IndustrialsRental & Leasing ServicesUSA277.16M-9.121.00%623.92114AOIApplied Optoelectronics, Inc.TechnologySemiconductorsUSAS7.26M-1.035.46%288,56515AAONAAON, Inc.IndustrialsBuilding Products & EquipmentUSAS1.4151.2194.900.13%245,25816AAPAdvance Auto Parts, Inc.Consumer CyclicalSpecialty RetailUSAUSA7.05B114.55118.610.90%1.368,66017AAPDDirexion Daily AAPL Bear 1X SharesFinancialExchange Traded FundUSAUSA2547.69B27.58162.350.99%449,501,68818AAPUDirexion Daily AAPL Bull 1.5X SharesFinancialExchange Traded FundUSAUSA1.06B22.781.47%326,26710AATAmerican Assets Trust, Inc.Real EstateREIT - DiversifedUSAUSA1.06B24.9418.880.44%326,276	12	AAME	Atlantic Americ	can Corporatio	n		Financial		Insurance -	Life		ι	JSA		50.70M	19.76	2.49	-0.40%	1,924
14AAOIApplied Optoelectronics, Inc.TechnologySemiconductorsSemiconductorsUSA57.26M1.935.46%288,56515AAONAAON, Inc.IndustrialsBuilding Products & EquipmentUSAS.14B51.2194.900.13%245,25816AAPAdvance Auto Parts, Inc.Consumer CyclicalSpecialty RetailUSAUSA7.05B118.610.09%1.368,66017AAPDDirexion Daily AAPL Bear 1X SharesFinancialExchange Traded FundUSA0.0124.000.099%1.368,25718AAPLApple Inc.TechnologyConsumer ElectronicsUSA0.5A2547.69B27.58162.360.099%449,501,68819AAPUDirexion Daily AAPL Bull 1.5X SharesFinancialExchange Traded FundUSAUSA1.06B24.941.47%186,84120AATAmerican Assets Trust, Inc.Real EstateREIT - DiversifiedUSAUSA1.06B24.9418.880.44%326,276	13	AAN	The Aaron's Co	ompany, Inc.			Industrials		Rental & Leasing Services		L. L	JSA		277.16M	-	9.12	1.00%	623,921	
AAONAAON, Inc.IndustrialsBuilding Products & EquipmentUSA5.14B51.2194.900.13%245,25816AAPAdvance Auto Parts, Inc.Consumer CyclicalSpecialty RetailUSAUSA7.05B118.510.090%1,368,66017AAPDDirexion Daily AAPL Bear 1X SharesFinancialExchange Traded FundUSAUSA24.00-0.99%136,25718AAPLApple Inc.TechnologyConsumer ElectronicsUSAUSA2547.69B27.58162.360.99%49,501,68819AAPUDirexion Daily AAPL Bull 1.5X SharesFinancialExchange Traded FundUSAUSA1.06B24.9418.080.44%326,27620AATAmerican Assets Trust, Inc.Real EstateREIT - DiversifiedUSAUSA1.06B24.9418.080.44%326,276	14	AAOI	Applied Optoel	ectronics, Inc.			Technology	Technology		Semiconductors		l	JSA		57.26M	-	1.93	5.46%	288,565
AAPAdvance Auto Parts, Inc.Consumer CyclicalSpecialty RetailUSA7.05B14.35118.610.90%1,368,66017AAPDDirexion Daily AAPL Bear 1X SharesFinancialExchange Traded FundUSAUSA-24.00-0.99%136,25718AAPLApple Inc.TechnologyConsumer ElectronicsUSAUSA2547.69B27.58162.360.99%49,501,68819AAPUDirexion Daily AAPL Bull 1.5X SharesFinancialExchange Traded FundUSAUSA.22.7814.7%186,84120AATAmerican Assets Trust, Inc.Real EstateREIT - DiversifiedUSAUSA1.06B24.9418.080.44%326,276	15	AAON	AAON, Inc.				Industrials		Building Pro	ducts &	Equipment	l	JSA		5.14B	51.21	94.90	0.13%	245,258
APDDirexion Daily AAPL Bear 1X SharesFinancialExchange Traded FundUSAI24.00-0.99%136,25718APLApple Inc.TechnologyConsumer ElectronicsUSA2547.69827.58162.360.99%49,501,68819APUDirexion Daily AAPL Bull 1.5X SharesFinancialExchange Traded FundUSAUSA1.06822.781.47%186,84120AATAmerican Assets Trust, Inc.Real EstateREIT - DiversifiedUSAUSA1.06824.9418.080.44%326,276	16	AAP	Advance Auto I	Parts, Inc.			Consumer Cyclical		Specialty Re	etail		L. L	JSA		7.05B	14.35	118.61	0.90%	1,368,660
APL         Apple Inc.         Technology         Consumer Electronics         USA         2547.69B         27.58         162.36         0.99%         49,501,68B           19         APU         Direxion Daily AAPL Bull 1.5X Shares         Financial         Exchange Traded Fund         USA         USA         20         27.58         1.62.36         0.99%         49,501,68B           20         AAT         American Assets Trust, Inc.         Real Estate         REIT - Diversified         USA         USA         1.06B         24.94         18.08         0.44%         326,276	17	AAPD	Direxion Daily	AAPL Bear 1X	Shares		Financial		Exchange Traded Fund		L. L	JSA		-	-	24.00	-0.99%	136,257	
19         AAPU         Direxion Daily AAPL Bull 1.5X Shares         Financial         Exchange Traded Fund         USA	18	AAPL	Apple Inc.				Technology		Consumer E	Electroni	cs	l	JSA		2547.69B	27.58	162.36	0.99%	49,501,688
20         AAT         American Assets Trust, Inc.         Real Estate         REIT - Diversified         USA         1.06B         24.94         18.08         0.44%         326,276	19	AAPU	Direxion Daily	AAPL Bull 1.5)	X Shares		Financial		Exchange T	raded Fi	ind	ι	JSA		-	-	22.78	1.47%	186,841
	20	AAT	American Asse	ts Trust, Inc.			Real Estate		REIT - Dive	rsified		l	JSA		1.06B	24.94	18.08	0.44%	326,276

1 2 3 4 5 6 ... 50 ... 100 ... 150 ... 200 ... 250 ... 300 ... 350 ... 400 ... 415 next

Pored vizuelnih reprezentacija, ovaj sajt nudi i mogućnost filtriranja akcija po željenim kriterijuma u okviru dela Screener

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#### Fri MAR 31 2023 6:55 AM ET 📀 Help Login Register

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r T	EPS growth lext 5 years	Any	<ul> <li>Sales growth past 5 years</li> </ul>	Any 🗸	EPS growth qtr over qtr	Any	~	Sales growth qtr over qtr	Any	✓ Re	eturn on Asse	ts Any	~
Ret	turn on Equity	Any	Return on Investment	Any 🗸	Current Ratio	Any	~	Quick Ratio	Any	✓ L	T Debt/Equity	/ Any	~
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No.	▲ Ticker	C	ompany	Sector		I	ndustry	Country	Market Cap	P/E	Price	Change	Volume
1	A	Agilent Technologies, Inc.		Healthcare	Diagno	ostics & Resea	irch	USA	39.52B	30.32	134.49	0.48%	1,468,195
2	AA	Alcoa Corporation		Basic Materials	Basic Materials Aluminum			USA	7.48B	-	41.76	2.00%	4,800,356
3	AAAU	Goldman Sachs Physical G	old ETF	Financial	Financial Exchange Traded Fund			USA	-	-	19.65	0.92%	883,605
4	AAC	Ares Acquisition Corporation	on	Financial	inancial Shell Companies			USA	744.38M	61.43	10.32	-0.10%	65,239
5	AACG	ATA Creativity Global		Consumer Defensiv	e Educat	Education & Training Services Chi			54.90M	-	1.87	2.19%	6,391
6	AACI	Armada Acquisition Corp.	I	Financial	Shell C	Shell Companies			207.65M	-	10.08	0.10%	2,204
7	AACIW	Armada Acquisition Corp.	I	Financial	Shell Comp		Shell Companies		-	-	0.11	0.00%	3,850
8	AADI	Aadi Bioscience, Inc.		Healthcare	Biotec	hnology		USA	174.34M	-	7.11	-0.14%	243,547
9	AADR	AdvisorShares Dorsey Wri	ght ADR ETF	Financial	Exchange Traded Fund			USA	-	-	48.21	1.41%	60
10	AAIC	Arlington Asset Investmen	t Corp.	Real Estate	REIT -	Mortgage		USA	77.10M	41.52	2.74	2.24%	37,127
11	AAL	American Airlines Group In	nc.	Industrials	Airline	Airlines		USA	9.36B	131.55	14.47	0.84%	13,673,518
12	AAME	Atlantic American Corpora	tion	Financial	Insura	Insurance - Life		USA	50.70M	19.76	2.49	-0.40%	1,924
13	AAN	The Aaron's Company, Inc		Industrials	Rental	& Leasing Se	rvices	USA	277.16M	-	9.12	1.00%	623,921
14	AAOI	Applied Optoelectronics, In	ю.	Technology	Semic	Semiconductors		USA	57.26M	-	1.93	5.46%	288,565
15	AAON	AAON, Inc.	Industrials	Buildin	Building Products & Equipment		USA	5.14B	51.21	94.90	0.13%	245,258	
16	AAP	Advance Auto Parts, Inc.	Consumer Cyclical	Specia	alty Retail		USA	7.05B	14.35	118.61	0.90%	1,368,660	
17	AAPD	Direxion Daily AAPL Bear	IX Shares	Financial	Exchar	Exchange Traded Fund		USA	-	-	24.00	-0.99%	136,257
18	AAPL	Apple Inc.		Technology	Consu	mer Electronic	CS	USA	2547.69B	27.58	162.36	0.99%	49,501,688
19	AAPU	Direxion Daily AAPL Bull 1	.5X Shares	Financial	Exchar	nge Traded Fu	nd	USA	-	-	22.78	1.47%	186,841
20	AAT	American Assets Trust, Inc	2.	Real Estate	REIT -	Diversified		USA	1.06B	24.94	18.08	0.44%	326,276

#### 1 2 3 4 5 6 ... 50 ... 100 ... 150 ... 200 ... 250 ... 300 ... 350 ... 400 ... 415 next

Kriterijumi koji se koriste za filtriranje mogu biti različite vrste. Npr. na prethodnom slajdu je prikazan tab Descriptive, na ovom Fundamental, a na sledećem Technical
#### Home News Screener Maps Groups Portfolio Insider Futures Forex Crypto Backtests Elite

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Performance	Any	~	Performance 2	Any	✓ Vol	atility	Any	~	RSI (14)	Any	~	Gap	Any	~
20-Day Simple Mo	oving Any	~	50-Day Simple Moving	Any	✓ 200-Day Si	imple Moving	Any	~	Change	Any	~	Change from	Open Any	~
20 Day High/Lo		~	Average	(Any )	ED Wool	erage High/Low	Anv	~	Dattorn	Any		Candlactic	k Any	~
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No.		Con	npany	Sect	or		Industry		Country	Market Cap	P/E	Price	Change	Volume
1 A	Agilent Te	chnologies, Inc.		Healthcare		Diagnostics	& Research		USA	39.	52B 30	.32 134.49	0.48%	1,468,195
2 AA	Alcoa Corp	poration		Basic Materials		Aluminum			USA	7.4	48B	- 41.76	2.00%	4,800,356
3 AAAU	Goldman Sachs Physical Gold ETF		Financial		Exchange Tr	aded Fund		USA		-	- 19.65	0.92%	883,605	
4 AAC	Ares Acqu	isition Corporation	I	Financial		Shell Compa	nies		USA	744.3	88M 61	.43 10.32	-0.10%	65,239
5 AACG	ATA Creati	vity Global		Consumer Defens	sive	Education &	Training Services		China	54.9	MOM	- 1.87	2.19%	6,391
6 AACI	Armada A	equisition Corp. I		Financial		Shell Compa	nies		USA	207.6	5M	- 10.08	0.10%	2,204
7 AACIW	Armada A	cquisition Corp. I		Financial		Shell Compa	nies		USA		-	- 0.11	0.00%	3,850
8 AADI	Aadi Biosc	ience, Inc.		Healthcare		Biotechnolog	у		USA	174.3	34M	- 7.11	-0.14%	243,547
9 AADR	AdvisorSh	ares Dorsey Wrigh	nt ADR ETF	Financial		Exchange Tra	aded Fund		USA		-	- 48.21	1.41%	60
10 AAIC	Arlington	Asset Investment	Corp.	Real Estate		REIT - Mortg	age		USA	77.1	.OM 41	.52 2.74	2.24%	37,127
11 AAL	American	Airlines Group Inc		Industrials		Airlines			USA	9.3	36B 131	.55 14.47	0.84%	13,673,518
12 AAME	Atlantic Ar	merican Corporatio	on	Financial		Insurance -	life		USA	50.7	70M 19	.76 2.49	-0.40%	1,924
13 AAN	The Aaron	's Company, Inc.		Industrials		Rental & Lea	sing Services		USA	277.1	.6M	- 9.12	1.00%	623,921
14 AAOI	Applied Op	otoelectronics, Inc		Technology		Semiconduct	ors		USA	57.2	26M	- 1.93	5.46%	288,565
15 AAON	AAON, Inc			Industrials		Building Proc	lucts & Equipment		USA	5.3	14B 51	.21 94.90	0.13%	245,258
16 AAP	Advance A	uto Parts, Inc.		Consumer Cyclica	al	Specialty Re	tail		USA	7.	05B 14	.35 118.61	0.90%	1,368,660
17 AAPD	Direxion D	aily AAPL Bear 1X	Shares	Financial		Exchange Tra	aded Fund		USA		-	- 24.00	-0.99%	136,257
18 AAPL	Apple Inc.			Technology		Consumer E	ectronics		USA	2547.0	59B 27	.58 162.36	0.99%	49,501,688
19 AAPU	Direxion D	aily AAPL Bull 1.5	X Shares	Financial		Exchange Tra	aded Fund		USA		-	- 22.78	1.47%	186,841
20 AAT	American	Assets Trust, Inc.		Real Estate		REIT - Diver	sified		USA	1.0	06B 24	.94 18.08	0.44%	326,276

1 2 3 4 5 6 ... 50 ... 100 ... 150 ... 200 ... 250 ... 300 ... 350 ... 400 ... 415 next

Na bazi bilo kog od ponuđenih kriterijuma u okviru ovih tabova može da se izvrši filtriranje

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#### Fri MAR 31 2023 6:56 AM ET 📀 Help Login Register

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1	Market Cap.	Any 🗸	Dividend Yield	Any	Float Short	Any 🗸	Analyst Recom.	Any	~	Option/Short	Any	~
E	arnings Date	Any 🗸	Average Volume	Any	Relative Volume	Any 🗸	Current Volume	Any	~	Price	Any	~
	Target Price	Any 🗸	IPO Date	Any	Shares Outstanding	Any	Float	Any	~			Reset (1)
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No.	/9/ #1	Com	nany	Sector	save as portrollo   create a	ductry	Country	Market Can	D/F	Drice	Change	Volume
1		Applied Optoelectropics, Inc.	pany	Technology	Semiconductors	uustiy	USA	57.26M	-	1.93	5.46%	288 565
2	ΑΔΡΙ	Apple Inc.		Technology	Consumer Electronics		USA	2547.69B	27,58	162.36	0.99%	49,501,688
-	ABST	Absolute Software Corporatio	n	Technology	Software - Application		Canada	553.44M	-	7.57	0.53%	97.330
4	ACIW	ACI Worldwide, Inc.		Technology	Software - Infrastructure		USA	2.81B	21.09	26.32	0.30%	382,286
5	ACLS	Axcelis Technologies, Inc.		Technology	Semiconductor Equipment	& Materials	USA	4.46B	24.43	133.44	0.95%	394,080
6	ACMR	ACM Research, Inc.		Technology	Semiconductor Equipment	& Materials	USA	720.39M	19.85	11.75	0.34%	297,292
7	ACN	Accenture plc		Technology	Information Technology Se	rvices	Ireland	185.87B	26.02	282.66	0.97%	2,293,610
8	ADBE	Adobe Inc.		Technology	Software - Infrastructure		USA	172.05B	37.66	381.90	0.72%	2,138,955
9	ADEA	Adeia Inc.		Technology	Software - Application		USA	902.37M	6.32	8.59	1.12%	309,765
10	ADI	Analog Devices, Inc.		Technology	Semiconductors		USA	99.16B	29.32	194.21	2.66%	4,367,130
11	ADSK	Autodesk, Inc.		Technology	Software - Application		USA	43.50B	53.39	201.61	1.23%	1,072,943
12	ADTN	ADTRAN Holdings, Inc.		Technology	Communication Equipment	:	USA	1.21B	-	15.57	-0.51%	342,706
13	AEHR	Aehr Test Systems		Technology	Semiconductor Equipment	& Materials	USA	1.07B	86.76	37.22	-1.66%	1,956,324
14	AEY	ADDvantage Technologies Gr	oup, Inc.	Technology	Electronics & Computer Dis	stribution	USA	15.86M	-	1.14	0.00%	25,412
15	AEYE	AudioEye, Inc.		Technology	Software - Application		USA	87.73M	-	7.46	6.42%	46,196
16	AFRM	Affirm Holdings, Inc.		Technology	Software - Infrastructure		USA	2.96B	-	10.42	-0.76%	10,385,220
17	AGIL	AgileThought, Inc.		Technology	Software - Application		USA	152.40M	-	3.15	-1.25%	14,340
18	AGMH	AGM Group Holdings Inc.		Technology	Computer Hardware		Hong Kong	45.90M	2.12	1.83	7.96%	3,156
19	AGYS	Agilysys, Inc.		Technology	Software - Application		USA	2.00B	192.76	79.61	-0.54%	79,108
20	AHI	Advanced Health Intelligence	Ltd.	Technology	Software - Application		Australia	11.78M	-	0.40	0.00%	18,353

Filters: sec:technology

1 2 3 4 5 6 ... 10 ... 20 ... 30 ... 40 next

Npr. iz taba Descriptive možemo da odaberemo Technology Sector,... 

#### Home News Screener Maps Groups Portfolio Insider Futures Forex Crypto Backtests Elite

My Presets	✓ Order:	Ticker		✓ A:	sc 🗸 Sigi	nal: None	(all stocks)	~	Tickers:						> Filters 🔺
Filters: 2				Des	scriptive(1) Fun	ndamental(1)	Technical	All(2)							
P/E	Over 30 🗸	Forward P/E	Any	~	PEG	Any	~	· P/	S	Any		~	P/B	Any	~
Price/Cash	Any 🗸	Price/Free Cash Flow	Any	~	EPS growth this year	Any	~	, EPS g next	rowth year	Any		~	EPS growth past 5 years	Any	~
EPS growth next 5 years	Any 🗸	Sales growth past 5 years	Any	~	EPS growth atr over atr	Any	~	Sales of atr ov	growth er atr	Any		▼ Re	eturn on Ass	ets Any	~
Return on Equity	Any 🗸	Return on Investment	Any	~	Current Ratio	Any	~	Quick	Ratio	Any		✓ 1	T Debt/Equi	ty Any	~
Debt/Equity	Any 🗸	Gross Margin	Any	~	Operating Marg	in Any	~	Net Prof	t Margin	Any		~	Payout Ratio	o Any	~
Insider Ownership	Any 🗸	Insider Transactions	Any	~	Institutional	Any	~	Institu Transa	itional	Any		•			Reset (2)
Overview	/aluation Financial	Ownership Perfor	rmance T	Technical	Custom	Charts	Tickers	Basic	iccions.	TA	News	Sr	apshot	NEW Maps	Stats
Total: 128 #1					save as portfolio L o	reate alert	Refresh: 3mir	off							← Page 1/7 ∨ →
No.	Com	pany	Sector	r	]	Industry		Cour	ntry	Market	Сар	P/E	Price	Change	Volume
1 ADBE	Adobe Inc.		Technology	Softw	vare - Infrastructure	1		USA		1	72.05B	37.66	381.90	0.72%	2,138,955
2 ADSK	Autodesk, Inc.		Technology	Softw	vare - Application			USA			43.50B	53.39	201.61	1.23%	1,072,943
3 AEHR	Aehr Test Systems		Technology	Semio	conductor Equipmer	nt & Materials		USA			1.07B	86.76	37.22	-1.66%	1,956,324
4 AGYS	Agilysys, Inc.		Technology	Softw	are - Application			USA			2.00B	192.76	79.61	-0.54%	79,108
5 AIXI	Xiao-I Corporation		Technology	Softw	are - Application			China			45.45M	56.06	5.55	1.09%	111,779
6 ALGM	Allegro MicroSystems, Inc.		Technology	Semio	conductors			USA			9.28B	60.59	47.38	1.54%	893,059
7 ALOT	AstroNova, Inc.		Technology	Comp	outer Hardware			USA		1	06.97M	38.64	13.91	2.96%	10,571
8 ALRM	Alarm.com Holdings, Inc.		Technology	Softw	are - Application			USA			2.39B	47.48	48.76	0.06%	130,290
9 AMD	Advanced Micro Devices, In	с.	Technology	Semio	conductors			USA		1	61.47B	110.60	97.88	1.86%	59,678,532
10 AMOT	Allied Motion Technologies I	inc.	Technology	Electr	ronic Components			USA		6	00.56M	34.83	37.89	1.20%	24,223
11 AMSWA	American Software, Inc.		Technology	Softw	are - Application			USA		4	15.56M	36.22	12.28	2.93%	246,579
12 ANET	Arista Networks, Inc.		Technology	Comp	outer Hardware			USA			49.92B	38.00	162.49	-0.01%	2,918,364
13 ANSS	ANSYS, Inc.		Technology	Softw	are - Application			USA			28.30B	54.46	326.04	1.87%	453,937
14 ASML	ASML Holding N.V.		Technology	Semio	conductor Equipmer	nt & Materials		Netherlan	ds	2	82.30B	44.03	676.68	2.66%	892,461
15 AZPN	Aspen Technology, Inc.		Technology	Softw	are - Application			USA			14.46B	1237.39	217.78	0.28%	192,708
16 BAND	Bandwidth Inc.		Technology	Softw	vare - Infrastructure			USA		3	89.10M	98.93	14.84	-1.59%	337,818
17 BLIN	Bridgeline Digital, Inc.		Technology	Softw	vare - Infrastructure			USA			9.89M	38.65	0.93	1.64%	12,735
18 BMI	Badger Meter, Inc.		Technology	Scient	tific & Technical Ins	truments		USA			3.48B	52.89	119.75	-0.11%	58,052
19 BOX	Box, Inc.		Technology	Softw	vare - Infrastructure			USA			3.73B	618.81	25.99	-0.38%	1,499,444
20 BR	Broadridge Financial Solution	ons, Inc.	Technology	Inform	mation Technology 9	Services		USA			16.75B	32.32	145.11	1.49%	473,761
Filters: fa pe:o30 se	c:technology														export

1 2 3 4 5 6 7 next

i.iz taba Fundamental akcije koje imaju P/E racio preko 30...

### Fri MAR 31 2023 7:00 AM ET 🛛 Help Login Register

## Home News Screener Maps Groups Portfolio Insider Futures Forex Crypto Backtests Elite

Filters: 3       Performance     Any       20-Day Simple Moving Average     Any       20-Day High/Low     Any       20-Day High/Low     Any       Beta     Any       Overview     Valuation       Total: 79 #1     Interview       No.     ▲ Ticker       1     ADBE     Adobe I       2     ADSK     Autodes       3     AEHR     Aehr Te       4     AGYS     Agilysys       5     ALGM     Allegro	Performan     S0-Day Simple	ce 2 Any	Desc	criptive(1) Fundamen	tal(1) Technical(1)	All(3)				_	_	
Performance     Any       20-Day Simple Moving Average     Any       20-Day High/Low     Any       20-Day High/Low     Any       Overview     Valuation       Total: 79 #1       No.     ▲ Ticker       1     ADBE       ADSK     Autodes       3     AEHR       4     AGYS       Agilysys       5     ALGM	Performan     S0-Day Simple	ce 2 Any										
20-Day Simple Moving Average     Any       20-Day High/Low     Any       Beta     Any       Overview     Valuation       Total: 79 #1     Integer       No.     Ticker       1     ADBE       Adobe I     2       2     ADSK       Autodes     3       AEHR     Aehr Te       4     AGYS       Agilysys       5     ALGM	✓ 50-Day Simple		~	Volatility	Any 🗸	R	RSI (14)	Any	~	Gap	Any	~
20-Day High/Low     Any       Beta     Any       Overview     Valuation       Total: 79 #1     Image: Comparison of the second	Averag	Moving Any	~	200-Day Simple Moving Average	SMA200 below SMA5 🗸		Change	Any	<b>v</b> (	Change from C	)pen Any	~
Beta     Any       Overview     Valuation       Total:     79 #1       No.     ▲ Ticker       1     ADBE     Adobe I       2     ADSK     Autodes       3     AEHR     Aehr Te       4     AGYS     Agilysys       5     ALGM     Allegro	✓ 50-Day Higl	n/Low Any	~	52-Week High/Low	Price 40% above SMA200 Price 50% above SMA200	*	Pattern	Any	~	Candlestick	c Any	~
Overview     Valuation       Total: 79 #1     ************************************	✓ Average True	Range Any	*	After-Hours Close	Price 60% above SMA200		lours Change	Any	~			Reset (3)
Total: 79 #1       No.     ▲ Ticker       1     ADBE     Adobe I       2     ADSK     Autodes       3     AEHR     Aehr Tei       4     AGYS     Agilysys       5     ALGM     Allegro	Financial Ownership	Performance	Technical	Custom Cha	Price 70% above SMA200 Price 80% above SMA200		ic	TA News	s (	Snapshot	NEW Maps	Stats
No.         ▲ Ticker           1         ADBE         Adobe I           2         ADSK         Autodes           3         AEHR         Aehr Te           4         AGYS         Agilysys           5         ALGM         Allegro				save as portfolio I create	Price 90% above SMA200							← Page 1/4 ¥ →
1     ADBE     Adobe I       2     ADSK     Autodes       3     AEHR     Aehr Te       4     AGYS     Agilysys       5     ALGM     Allegro	Company	Sector		Industry	Price 100% above SMA20 Price crossed SMA200	0	untrv	Market Cap	P/E	Price	Change	Volume
2 ADSK Autodes 3 AEHR Aehr Ter 4 AGYS Agilysys 5 ALGM Allegro	Inc.	Technology	Software	- Infrastructure	Price crossed SMA200 abo	ove	,	172.05B	37.66	381.90	0.72%	2,138,955
3     AEHR     Aehr Ter       4     AGYS     Agilysys       5     ALGM     Allegro	sk, Inc.	Technology	Software	- Application	Price crossed SMA200 bel	ow		43.50B	53.39	201.61	1.23%	1,072,943
4 AGYS Agilysys 5 ALGM Allegro	st Systems	Technology	Semicon	ductor Equipment & Mater	SMA200 crossed SMA20 a	bove		1.07B	86.76	37.22	-1.66%	1,956,324
5 ALGM Allegro	s, Inc.	Technology	Software	- Application	SMA200 crossed SMA20 b	elow		2.00B	192.76	79.61	-0.54%	79,108
	MicroSystems, Inc.	Technology	Semicon	ductors	SMA200 crossed SMA50 SMA200 crossed SMA50 a	bove		9.28B	60.59	47.38	1.54%	893,059
6 ALOT AstroNo	ova, Inc.	Technology	Compute	r Hardware	SMA200 crossed SMA50 b	oelow		106.97M	38.64	13.91	2.96%	10,571
7 AMD Advance	ed Micro Devices, Inc.	Technology	Semicon	ductors	SMA200 above SMA20 SMA200 below SMA20			161.47B	110.60	97.88	1.86%	59,678,532
8 AMOT Allied M	lotion Technologies Inc.	Technology	Electroni	c Components	SMA200 above SMA50			600.56M	34.83	37.89	1.20%	24,223
9 ANET Arista N	letworks, Inc.	Technology	Compute	r Hardware	SMA200 below SMA50	UUR T		49.92B	38.00	162.49	-0.01%	2,918,364
10 ANSS ANSYS,	Inc.	Technology	Software	- Application		USA		28.30B	54.46	326.04	1.87%	453,937
11 ASML ASML H	Iolding N.V.	Technology	Semicon	ductor Equipment & Mater	ials	Netherla	ands	282.30B	44.03	676.68	2.66%	892,461
12 BAND Bandwid	dth Inc.	Technology	Software	- Infrastructure		USA		389.10M	98.93	14.84	-1.59%	337,818
13 BMI Badger	Meter, Inc.	Technology	Scientific	& Technical Instruments		USA		3.48B	52.89	119.75	-0.11%	58,052
14 BOX Box, Inc	с.	Technology	Software	- Infrastructure		USA		3.73B	618.81	25.99	-0.38%	1,499,444
15 BSY Bentley	Systems, Incorporated	Technology	Software	- Application		USA		12.23B	77.28	42.27	0.24%	512,507
16 CDNS Cadence	e Design Systems, Inc.	Technology	Software - Application			USA		57.20B	67.06	207.01	0.49%	1,629,730
17 CGNX Cognex	Corporation	Technology	Scientific	& Technical Instruments		USA		8.62B	39.56	48.70	1.63%	651,529
18 CIEN Ciena C	Corporation	Technology	Commun	ication Equipment		USA		7.73B	42.58	51.95	1.23%	1,686,968
19 CRCT Cricut, I												
20 CREX Creative	Inc.	Technology	Compute	r Hardware		USA		2.08B	34.65	9.53	0.53%	42,503

1 2 3 4 next

 ... i iz taba *Technical* akcije koje imaju SMA200 ispod SMA50 (više o SMA u nastavku prezenacije)

## Yahoo Finance

- Ovaj sajt je koristan za dobijanje detaljnijih informacija o pojedinim finansijskim instrumentima
- Na narednom slajdu je dat primer početnog pregleda (Summary) akcije kompanije Apple Inc. u okviru kog se vide ključni podaci o ovoj akciji





Apple Inc. (AAPL) NasdaqGS - NasdaqGS Real Time Price. Currency in USD ♀ Follow

## **162.36** +1.59 (+0.99%) **162.08** -0.28 (-0.17%) At close: March 30 04:00PM EDT Pre-Market: 7:06AM EDT

Summary Chart Conversations Statistics Historical Data Profile Financials Analysis Options Holders Sustainability

Valuation Measures <sup>4</sup>	Trading Informat	ion
Market Cap (intraday)	2.54T Stock Price Histo	ry
Enterprise Value	2.60T Beta (5Y Monthly)	
Trailing P/E	26.98 52-Week Change <sup>3</sup>	
Forward P/E	26.88 S&P500 52-Week Cha	nge
PEG Ratio (5 yr expected)	2.69 52 Week High <sup>3</sup>	
Price/Sales (ttm)	6.64 52 Week Low <sup>3</sup>	
Price/Book (mrq)	44.33 50-Day Moving Average	ge <sup>3</sup>
Enterprise Value/Revenue	6.70 200-Day Moving Avera	age <sup>3</sup>
Enterprise Value/EBITDA	20.27 Share Statistics	

## **Financial Highlights**

i iscui i cui
---------------

Fiscal Year Ends Sep 23, 2022 Most Recent Quarter (mrq) Dec 30, 2022

Profitability	
---------------	--

Profit Margin 24.56%
Operating Margin (ttm) 29.41%

Beta (5Y Monthly)	1.30
52-Week Change <sup>3</sup>	-6.86%
S&P500 52-Week Change <sup>3</sup>	-10.89%
52 Week High <sup>3</sup>	178.49
52 Week Low <sup>3</sup>	124.17
50-Day Moving Average <sup>3</sup>	150.87
200-Day Moving Average <sup>3</sup>	148.34

Currency in USD

68.89M

## Share Statistics Avg Vol (3 month) <sup>3</sup>

Avg Vol (10 day) <sup>3</sup>	64.81M
Shares Outstanding <sup>5</sup>	15.82B
Implied Shares Outstanding <sup>6</sup>	N/A
Float <sup>8</sup>	15.81B
% Held by Insiders <sup>1</sup>	0.07%
% Held by Institutions <sup>1</sup>	61.33%
Shares Short (Mar 14, 2023) 4	107.42M

## Klikom na Statistics se pojavljuju detaljnije informacije o akciji



6.15

.

5.67

3.31

2.99

Basic EPS

Deo *Financials* pokazuje ključne informacije iz finansijskih izveštaja kompanije



## Calls for March 31, 2023

Contract Name	Last Trade Date	Strike 🔨	Last Price	Bid	Ask	Change	% Change	Volume	Open Interest	Implied Volatility
AAPL230331C00050000	2023-03-30 1:38PM EDT	50.00	111.45	0.00	0.00	0.00	-	19	397	0.00%
AAPL230331C00055000	2023-03-30 3:50PM EDT	55.00	107.05	0.00	0.00	0.00		1	9	0.00%
AAPL230331C00060000	2023-03-30 3:34PM EDT	60.00	102.05	0.00	0.00	0.00		2	197	0.00%
AAPL230331C00065000	2023-03-29 2:54PM EDT	65.00	95.49	0.00	0.00	0.00		8	0	0.00%
AAPL230331C00070000	2023-03-16 11:29AM EDT	70.00	84.30	0.00	0.00	0.00	-	3	3	0.00%
AAPL230331C00080000	2023-03-24 1:28PM EDT	80.00	79.30	0.00	0.00	0.00	-	1	1	0.00%
AAPL230331C00085000	2023-03-16 12:46PM EDT	85.00	69.95	0.00	0.00	0.00	-	2	3	0.00%
AAPL230331C00090000	2023-03-21 10:04AM EDT	90.00	67.75	0.00	0.00	0.00	2	2	3	0.00%
AAPL230331C00095000	2023-03-21 12:47PM EDT	95.00	62.95	0.00	0.00	0.00	-	3	0	0.00%
AAPL230331C00100000	2023-03-27 1:38PM EDT	100.00	58.50	0.00	0.00	0.00		3	7	0.00%

U delu *Options* su pokazane dostupne opcije na ovu akciju

Sustainabil

Q





#### Major Holders Insider Roster Insider Transactions

Major Holders Breakdown		Currency in USD
0.07%	% of Shares Held by All Insider	
61.33%	% of Shares Held by Institutions	
61.37%	% of Float Held by Institutions	
5.747	Number of Institutions Holding Shares	

**Top Institutional Holders** 

Holder	Shares	Date Reported	% Out	Value
Vanguard Group, Inc. (The)	1,278,250,538	Dec 30, 2022	8.08%	207,536,758,129
Blackrock Inc.	1,029,208,322	Dec 30, 2022	6.50%	167,102,263,788
Berkshire Hathaway, Inc	895,136,175	Dec 30, 2022	5.66%	145,334,309,919
State Street Corporation	586,857,405	Dec 30, 2022	3.71%	95,282,168,633
FMR, LLC	321,162,411	Dec 30, 2022	2.03%	52,143,929,245

Ključne informacije o vlasništvu nad akcijama su prikazane u delu Holders

Sustainabili

Apple Inc. (AAPL) NasdaqGS - NasdaqGS Real Time Price. Currency in USD



## **162.36** +1.59 (+0.99%) **162.14** -0.22 (-0.14%) At close: March 30 04:00PM EDT

Pre-Market: 7:08AM EDT

Severe

Summary	Chart	Conversations	Statistics	Historical Data	Profile	Financials	Analysis	Options	Holders	Sustainability
Environme	ent, Soci	al and Governa	ince (ESG)	Risk Ratings 💿						
Total ESG Risk score			Environment Risk Score		Social Risk Score		e	Governance Risk Score		
17 15	th percentil	le	0.	6		6.9		9.2		
Low										
Controvers	Sy Level 🔇	0					AAF	PL Pe	ers 🔻 Cate	egory Average
3 Signific	ant Contro	oversy level								

Sustainability je deo koji pruža ključne informacije o ESG (Environment, Social and *Governance*) performansama kompanije

ESG data provided by Sustainalytics, Inc. Last updated on 8/2022

None

 $\cap$ 

II. Upoznavanje sa egzekucijom naloga i upravljanjem pozicijama



## Osnova za tehničku analizu

- Nakon završene fundamentalne analize, pogodno je da se primeni tehnička analiza kako bi se optimizovao trenutak ulaska u poziciju
- Za adekvatnu primenu tehničke analize je potrebno razumevanje softvera u kom se izvršavaju transakcije
- Prezentacija je urađena pomoću NinjaTrader-a, ali naravno postoje i drugi slični softveri
- Za tehničku analizu se smatra da predstavlja varijantu proročanstva koje se samo ispunjava (Selffulfilling Prophecy) - ako dovoljan broj ljudi veruje da će cena da se kreće na određeni način i krenu da trguju u skladu sa tim, cena će zaista i odraziti to uverenje, bez obzira na to na čemu je ono zasnovano

NINJATR	ADER 🖪	New 🗶 Tool	ls 🗖 Worksp	aces 📍 Con	nections 🗘 I	Help	= 🗆 🔀
Instrument	Side	Quantity	Avg. price	PnL	Account name	Account display na	Connection
CL 05-23	Short	1	71.45	\$2,530.00	Sim101	Sim101	My NinjaTrader Cc
ES 06-23	Short	4	4000.0625	\$6,262.50	SimBEP23	SimBEP23	My NinjaTrader Co

- Ovo je početni prozor, u kom mogu da se nađu informacije o istoriji naloga (u tabu Orders) i o trenutnim pozicijma u različitim instrumentima (u tabu Positions). Takođe, odavde se kreiraju novi prozori, npr. grafikoni.
- Na prikazanom primeru se vide dve short pozicije u različitim fjučersima, kao i detaljnije informacije o njima
   broj fjučersa po poziciji, prosečna cena po kojoj se ušlo u poziciju i trenutni dobitak/gubitak na poziciji (*PnL*) koji se menja u zavisnosti od trenutne cene fjučersa

NINJATRADER	🖸 New 🗶	Tools 🖾 Worl	(spaces 📍 🤇	Connections 🔿	Help					
Ir Basic Entry	Quantity	Avg. price	PnL	Account name	Account display na	Connection				
C FX Pro	1	71.45	\$2,510.00	Sim101	Sim101	My NinjaTrader Co				
E Option Chain	4	4000.0625	\$6,512.50	SimBEP23	SimBEP23	My NinjaTrader Co				
Order Ticket SuperDOM (Dynamic)	► U NiniaT	r <i>ader</i> -u ie mo	guće otvoriti	i više različitih	vrsta prozora					
Alerts Log	(Workspaces) koji pokazuju podatke na različite načine. Klikom na New									
Chart	mogu da se nadu nor ·									
Depth Chart	1. grafikoni ( <i>Charts</i> )									
FX Board										
FX Correlation	2 prozor za proglad dubina tržišta (SuperDOM DOM ad Depth of Market)									
Hot List Analyzer	<ol> <li>prozor za pregled dubine trzista (SuperDOM - DOM od Depth of Market)</li> <li>istorija transakcija na tržištu nekog instrumenta (T&amp;S od Time and Sale)</li> </ol>									
Level II										
Market Analyzer	List)									
Market Watch	,									
News	4. prozor za brzi pregled informacija o vise razlicitih instrumenata ( <i>Market Watch</i> )									
Strategy Analyzer										
T& S	5. prozor za davanje naloga (Order Ticket)									
Account Data				entery						
Trade Performance										
Ninja Script Editor										
Ninia Script Output										

Strategy Builder



Primer grafikona (Chart)

SuperDO	M			
Buy		Price	Sell	
		3971.75		
		3971.50		
		3971.25		
		3971.00		
		3970.75		
		3970.50	80	
		3970.25	94	
		3970.00	83	
		3969.75	87	
		3969.50	83	
		3969.25	79	
		3969.00	78	
		3968.75	58	
		3968.50	44	
		(1) 3968.25	28	
23				
53		3967.75		
72		3967.50		
	61	3967.25		
	87	3967.00		
	77	3966.75		
	93	3966.50		
	103	3966.25		
111		3966.00		
	87	3965.75		
		3965.50		
		3965.25		
		3965.00		
		3964.75		
	Market	PnL	Market	
		<u>`</u>		
Rev		Flat	C	lose
Instrument		TIF	Quan	
ES 06-23	3	✓ DAY	<b>∨</b> 1	≣\$
Account		ATM Strategy		
Sim101	~	None		~
ES 06	-23 +			

- Prozor za pregled dubine tržišta (SuperDOM - DOM od Depth of Market) pokazuje broj postavljenih limit naloga na strani ponude (kolona Sell) i tražnje (kolona Buy) za različite cene (kolona Price). Cene se razlikuju za po jedan tik (tick)
- Tik je najmanja obračunska jedinica za koju cena nekog fjučersa može da se promeni (poput pare za cene roba koje su izražene u dinarima). Vidimo da je kod ovog fjučersa jedan tik = 0.25 poena

<b>D</b> 1.4			A - 1	
Bid			Ask	
3968.50	49		3968.75	12
5:12:58	5 PM		8.75	
		396		
5:12:58	БРМ	396		
5:12:50		390	0.75	
0.12.00		306	0.70	
5:12:5	5 PM	396	875	
5:12:5	5 PM	396	8.75	
5:12:55	5 PM	396	8.75	
5:12:58	5 PM		8.75	
5:12:55	5 PM		8.75	
5:12:58	5 PM	396	9.00	
5:12:55	5 PM	396	9.00	
5:12:55	5 PM	396	9.00	
5:12:55		390	9.00	
5:12:5		306	9.00	
5:12:5	5 PM	396	9.00	
5:12:55	5 PM	396	9.00	
5:12:54	4 PM	396	9.00	
	4 PM			
	4 PM			
5:12:54	4 PW			
	+ F IVI 4 PM			
	4 PM			
5:12:53	зрм	396	8.75	
5:12:53	3 PM	396	9.00	
5:12:53	3 PM		9.00	
5:12:52	2 PM		9.00	
5:12:52	2 PM	396	9.00	
		396		
5:12:5:	2 PM	396	8 75	
	1 PM			
5:12:51	1 PM		8.75	
5:12:51	1 PM		8.75	
5:12:51	1 PM		8.75	
	1 PM	396		
5:12:5:	1 PM	396	8.75	
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Istorija transakcija na tržištu nekog instrumenta (T&S od *Time and Sale List*) pokazuje vreme realizacije, cenu i broj instrumenata za transakcije na tržištu nekog instrumenta

## TRADING FLOOR, DEO II





Prozor za davanje naloga (Order Ticket) omogućava jednostavno davanje naloga (moguće je davanje naloga i u drugim prozorima)

# NinjaTrader -Charts

- U nastavku će biti više reči o mogućnostima koje postoje u okviru prozora za grafikone
- Na narednom slajdu je prikazan grafikon za mali fjučers (manji po veličini ugovora od standardnog) na S&P 500, koji nosi oznaku ES 06-23
- ES je tiker kojim je označena vrsta fjučersa, a 06-23 je dopuna koja nam govori da je u pitanju fjučers koji ističe u junu 2023.
- Na x osi je vreme, a na y cena fjučersa izražena u poenima
- Svaki poen se sastoji od određenog broja tikova (tik je najmanja obračunska jedinica), a svaki tik ima određenu cenu u novcu, npr. \$12.5
- Za svaki instrument se posebno definišu rokovi dospeća i tikovi, pa je potrebno naći te informacije pre početka trgovanja



















# Vremenski horizont

- Dužina vremenskog horizonta koja se bira zavisi od strategije koja se primenjuje
- Postoje različiti vremenski horizonti za trejding strategije (npr. intraday trading - izlazi se iz pozicije do kraja dana; scalping - trajanje pozicija je veoma kratko, kraće nego kod intraday trading-a; mogući su i duži periodi - nekoliko dana i duže)
- Što je kraći vremenski horizont strategije, potrebniji su grafikoni za kraće periode (izraženi u minutima, pa i sekundama). Obrnuto važi za strategije sa dužim vremenskim horizontom
- Što je duži vremenski horizont grafikona, veće su mogućnosti da se uoče pravilnosti korišćenjem nekih alata tehničke analize (ima više vremena da dovoljno ljudi uoči neki šablon, pa da cena počne da se kreće "u skladu sa proročanstvom")
- Na sledećem slajdu su grafikoni sa 4 vremenska horizonta za isti instrument, što omogućava sagledavanje kretanja cene na različitim nivoima





ES 06-23




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## Linije

- Gornja linija na prethodnom grafikonu može da se tumači kao linija otpora (Resistance Line), što bi značilo da trejder ne očekuje da će cena da pređe iznad nivoa ove linije
- Uobičajeno je da se linija otpora kreira povezivanjem najviših cena na svećicama (dakle na osnovu nekih uočenih maksimuma)
- Donja linija može da se tumači kao linija podrške (Support Line), što bi značilo da trejder ne očekuje da će cena da padne ispod nivoa ove linije
- Uobičajeno je da se linija podrške kreira povezivanjem najnižih cena na svećicama (dakle na osnovu nekih uočenih minimuma)
- Međutim, ako cena probije liniju otpora (Break-out), trejder može da počne da posmatra tu liniju kao novi nivo podrške
- Važi i obrnuto ako cena padne ispod linije podrške, ona može da postane novi nivo otpora
- Naravno, trejder može da pogreši u proceni, pa cena može da se vrati na prethoni nivo koji je ispod linije otpora/iznad linije podrške (*Fake-out*)





## Fibonacci Retracements

- Postoji više alata koji koriste Fibonačijev niz, jedan od njih je Fibonacci Retracements koji prikazuje linije koje se automatski formiraju na osnovu niza
- Ucrtava se formiranjem pravougaonika počinje se od gornjeg levog ugla koji se obično postavlja na nivou nekog uočenog maksimuma na grafikonu, a završava se donjim desnim uglom koji se bira na osnovu nekog uočenog minimuma. Alat automatski kreira linije kojima je pravougaonik izdeljen
- Trejder može da zaključi da je neka od tih linija nivo podrške, odnosno otpora i da na osnovu toga donese odluku o trgovini



## Regresioni kanal

- Regresioni kanal je manje subjektivan alat za crtanje od ostalih
- Da bismo ga kreirali, potrebno je samo da odredimo početak i kraj vremenskog perioda koji želimo da obuhvatimo
- Alat onda sam kreira regresionu pravu za cene koje su obuhvaćene tim periodom (pravu koja najbolje opisuje kretanje cene kroz vreme jer je takva da cene najmanje odstupaju od nje)
- Alat kreira još dve paralelne prave koje su 2 standardne devijacije iznad/ispod regresione prave
- Normalna raspodela podrazumeva da je oko 95% podataka u opsegu od +/- 2 standardne devijacije od aritmetičke sredine
- Dakle, ako kretanje cene instrumenta prati normalnu raspodelu (što obično nije slučaj, ali jeste česta aproksimacija), očekujemo da cena instrumenta neće izaći iz ovog kanala u oko 95% slučajeva, pa se može tumačiti da te dve linije predstavljaju nivoe otpora i podrške

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Prvo iz dela Available biramo VOL koji prikazuje obim trgovanja (Volume). On sam po sebi nije indikaor, već osnovna informacija o kretanju tržišta, ali je tako klasifikovan u okviru NinjaTrader-a





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Prvi pravi indikator koji ćemo prikazati je **linija prostih pokretnih proseka** (SMA -*Simple Moving Average*). Ona pokazuje za svaki period t običan prosek koji je sastavljen od n prethodnih cena (uključujući i cenu za period t). Po *default*-u je izabrano da ona pravi prosek cena za prethodnih 14 perioda. Proseci se "kreću" jer se za svaki sledeći period prosek računa tako što se izbacuje najstariji podatak i ubacuje najnovija cena. Povezivanjem ovih proseka se dobija linija koja manje oscilira od cene instrumenta

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Može i da se promeni broj perioda za koji se računa SMA, npr. da se izabere 200 perioda. Svi indikatori mogu da se modifikuju, ali se to obično ne preporučuje ("proročanstvo će se ostvariti" samo ako dovoljan broj ljudi veruje u njega, a ljudi obično koriste vrednosti koje su po default-u). Međutim, za SMA je uobičajeno da se istovremeno koristi više linija za različite brojeve perioda, i to pre svega za neke okrugle iznosi (50, 100, 200...)



Chart ES 06-23

Daily

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Zato možemo da uvedemo još jedan pokretni prosek. Tehnički se to radi tako što se još jednom bira pokretni prosek iz liste indikatora, pa se i on modifikuje

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Žutom bojom je prikazan SMA 200 ("spori" prosek), a zelenom SMA 50 ("brzi" prosek). SMA za manji broj perioda se uvek brže menja, odnosno bliže prati cenu. Na grafikonu se vidi da SMA 50 preseca odozdo SMA 200 - pravi krst koji se obično tumači kao signal za kupovinu instrumenta. Međutim i SMA 50 je dosta spor indikator, pa se vidi da ta informacija dosta kasni za tržištem - bilo bi bolje da je korišćen neki još "brži" SMA npr. 20, ali bi to povećalo rizik lažnih signala



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Par SMA 200 i 50 je popularan, ali na prikazanom primeru se ne uočava najbolje suština između njihovog odnosa. Zato biramo drugačiji set - SMA 100 za "spori" porsek (žuta linija) i SMA 20 za "brzi" (zelena linija)



Na ovom primeru se mnogo bolje primećuje da brz prosek bliže prati cenu od sporog, kao i da krst koji formiraju dve linije može da bude signal za trgovinu. Kada "brzi" prosek preseče "spori" odozgo, to se tumači kao signal za prodaju instrumenta



U ovom delu grafikona se vidi i suprotna situacija - kada brzi prosek preseče spori odozdo (Golden Cross) to može da se smatra signalom za kupovinu Chart ES 06-23 V

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Pored SMA, postoji i eksponencijalni pokretni prosek (EMA - Exponential Moving Average), koji daje veći ponder novijim podacima. Dakle, cene koje su se skorije ostvarile imaju veće učešće u obračunu proseka od starijih, pa zato ovaj indikator brže reaguje od SMA za isti broj perioda (bliže prati cenu)



Sad je dodata i crvena linija - EMA 20. Ona bi očigledno ranije nego SMA 20 dala signal za prodaju instrumenta (ranije preseca SMA 100 odozgo - presek 1 je nastao pre preseka 2). Takođe, linija EMA 20 je ranije nego SMA 20 dala signal za kupovinu instrumenta (presekla SMA 100 odozdo - presek 3 je nastao pre preseka 4). Međutim, i ovde važi da brži indikator (EMA) nosi veći rizik da je signal pogrešan od sporijeg indikatora (SMA)

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Sledeći indikator je pokretni prosek ponderisan obimom (VWMA - Volume Weighted Moving Average). U pitanju je pokretni prosek koji daje veći ponder cenama koje su "potvrđene" velikim obimom trgovanja (dakle veliki broj učesnika na tržištu je smatrao da su one adekvatne)



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Bollinger je indikator koji sadrži tri linije - SMA (14 po default-u) i dve linije koje su udaljene za određeni broj standardnih devijacija (2 po default-u) od SMA linije



Tumačenje je slično kao za regresioni kanal, ali ovde je u sredini pokretni prosek, a ne regresiona prava. Takođe, kod regresionog kanala se standardna devijacija ne menja kroz vreme, što ovde nije slučaj

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╵┦┿╹	RSI(ES 06-23 (1 Minute),1	4,3)		Maximu	m bars lo	ok back	256			~	3956.00 3954.00
			Ť	Auto sc	ale		~				3952.00

Sledeći indikator je indeks relativne snage (RSI - Relative Strength Index). On ukazuje na momentum trgovanja - da li je tržište previše kupovalo neki instrument (overbought) ili ga je previše prodavalo (oversold). Smatra se da je neki instrument overbought kada vrednost ovog indeksa pređe 70 (signal za prodaju) i oversold kada padne ispod 30 (signal za kupovinu)





1 Minute

♥ ♥ ♥ ₽ ₽ ₽ ₩ % ፼ ☷



	Indicators				? 🗙		- - 4088.00
	Available i	÷	Properties		÷		- 4087.50 - 4087.00
	Lin. reg. slope		✓ Parameters		Ē	·╇╅╃╤╈┓ <sub>╍</sub> ┷╷┓<	4086.50
	MAenvelopes		Fast	12			- 4086.00 - 4085 50
	MACD	F	Slow	26			- 4085.00
	MAX		Smooth	9			- 4084.50
	McClellan oscillator		✓ Data Series				- 4084.00
	MFI		Input series	ES 06-23 (1 Minute)			- 4083.50 - 4083.00
+L	MIN		▼ Setup				- 4082.50
	Configured		Calculate	On bar close	×		- 4082.00
	MACD(ES 06-23 (1 Minute), 12, 26, 9)		Label	MACD			- 4081.50 - 4081.0 <u>0</u>
			Maximum bars look back	256	v		- 4080.50

MACD (*Moving Average Convergence/Divergence*) je indikator koji koristi dve serije podataka - po default-u EMA 12 i EMA 26. Oduzimanjem EMA 26 od EMA 12 se dobija MACD linija. Ona se poredi sa EMA 9 linijom MACD-a (dakle EMA 9 se ne računa kao prosek cena, nego kao prosek MACD-a za 9 perioda). Kada MACD linija pređe iznad EMA 9 linije, to se smatra signalom za kupovinu,i obrnuto, kada ode ispod EMA 9, to je signal za prodaju



06-23

✓ 1 Minute ✓

1h

\_∕∿\_ €, ⊂, ∖, È, Ё1 ∭, ル 図 ☷





I kod ovog indikatora treba obratiti pažnju na boje, pošto se javljaju 2 linije, kao i njihova razlika koja je prikazana u vidu štapićastog dijagrama





## Prozor za davanje naloga

- Gornja polovina ovog prozora daje tržišne informacije za izabrani instrument (cena, rast cene, broj naloga na stranama ponude i tražnje...)
- Donju polovinu treba popouniti da bi se dao nalog

	Order Ticket									
	E-mini S&P	) Futures			Ask	4	1085.25			
	40	8	35.	$\left( \right)$	0	Size Bid		42 1085.00		
		5	00 (0.123	(e)		Size High Low		5: 1094.25 1078.01		
	Instrument		ES 06-23	۷	Accoun		SimBE	:P ٧		
CL 03-22 ^VIX		ą	8		000					
^V	^VIX ES 06-23 VIX		Limit	۷	TIF		DAY	Ŷ		
VD			4069.75	÷	Stop Pr	ice	0			
FGBL 06-23 ES 09-23					0		0			
					Buy	┛	Se	11		
GC	00-23		+							
СЛ	Cryptocurrency									
DJ	A JU	Į.								
DO	W 30									
FO	REX	Þ								
Fut	tures	۲								
Ind	exes	۲								
Mic	cros									
NA	SDAQ 100									
SP	500	1								

Prvo treba izabrati instrument kojim se trguje preko polja Instrument



- U polje Quantity se unosi željeni broj instrumenata
- U okviru polja Order Type se bira tip naloga (limit, tržišni, stop)



- U polje Limit Price treba uneti željenu cenu ukoliko se koristi limit nalog
- U polje Stop Price treba uneti nivo cene na kom će se stop nalog aktivirati (ako se koristi stop nalog)
- Na kraju treba kliknuti Buy za ulazak u long poziciju ili Sell za ulazak u short poziciju
- Ako smo već u poziciji iz koje želimo da izađemo treba da izaberemo Buy za izlazak iz short pozicije i Sell za izlazak iz long pozicije
III. Osnove
portfolio
menadžmenta



## Diversifikacija

- Diversifikacija podrazumeva da kroz držanje različitih aktiva u portfoliju možemo smanjiti njegov rizik
- Prinos portfolija se može izračunati kao ponderisani prosek prinosa aktiva koje ga čine, ali to generalno ne važi za rizik portfolija
- Benefiti od diversifikacije se ostvaruju zbog:
- 1. držanja aktiva koje su slabo (ili negativno) povezane
- 2. uključivanja velikog broja aktiva

## Značenje simbola

- r prinos aktive (generalno realizovani prinos, ali može da se posmatra i kao prinos u opštem slučaju - bilo realizovani, bilo očekivani, kao što važi na sledećem slajdu)
- E(r) očekivani prinos aktive
- w učešće neke aktive u portfoliju
- $\triangleright$   $\sigma$  standardna devijacija prinosa aktive
- $\triangleright$   $\rho$  koeficijent korelacije prinosa dve aktive

Obračun pokazatelja za portfolio koji čine dve HoV

- Prinos portfolija:
  - $r_p = w_1 r_1 + w_2 r_2$
- **Rizik portfolija:** 
  - $\sigma_p^2 = W_1^2 \sigma_1^2 + W_2^2 \sigma_2^2 + 2 W_1 W_2 \rho_{1,2} \sigma_1 \sigma_2$
- Takođe, uvek važi relacija da je zbir svih učešća jednak 1

# Rizik portfolija - posebni slučajevi

Kada je ρ<sub>1,2</sub> = 1- savršena pozitivna korelacija, nema koristi od diversifikacije

 $\sigma_{p}^{2} = W_{1}^{2} \sigma_{1}^{2} + W_{2}^{2} \sigma_{2}^{2} + 2 W_{1} W_{2} \sigma_{1} \sigma_{2} = (W_{1} \sigma_{1} + W_{2} \sigma_{2})^{2}$ 

**•** Kada je  $\rho_{1,2} = \mathbf{0}$  - HoV nisu korelisane

 $\sigma_{\rm p}^2 = W_1^2 \sigma_1^2 + W_2^2 \sigma_2^2$ 

► Kada je  $\rho_{1,2}$  = -1- savršena negativna korelacija  $\sigma_p^2 = W_1^2 \sigma_1^2 + W_2^2 \sigma_2^2 - 2 W_1 W_2 \sigma_1 \sigma_2 = (W_1 \sigma_1 - W_2 \sigma_2)^2$ 



 $\sigma_{
m p}$ 

Portfolio koji je sastavljen od dve aktive koje su savršeno pozitivno korelisane će se naći negde na prikazanoj pravoj. Učešća aktiva određuju gde će to tačno biti (npr. moguće je staviti 100% sredstava u aktivu 1, u tom slučaju bi i ceo portfolio bio u tački 1, ali sa rastom učešća aktive 2 bi se portfolio sve više pomerao ka tački 2)

Portfolio dve HoV sa savršenom negativnom korelacijom

- Za ovu kombinaciju aktiva je moguće odrediti pondere koji bi doveli do toga da se zapravo kreira bezrizični portfolio
- Pošto važi:

$$\sigma_p^2 = 0 \ i \ \sigma_p^2 = (w_1 \ \sigma_1 - w_2 \ \sigma_2)^2$$

sledi da je:

 $0 = (w_1 \sigma_1 - w_2 \sigma_2)^2$ 

a za učešća važi:

 $w_1 = 1 - w_2$ 

tako da je uz poznavanje standardnih devijacija dve HoV moguće rešiti sistem jednačina



- Portfolio dve HoV sa savršenom negativnom korelacijom će se naći negde na izlomljenoj linij
- MVP predstavlja portfolio sa minimalnom varijansom, što je u ovom slučaju bezrizični portfolio

 $\sigma_{\mathsf{p}}$ 

#### Vrste rizika HoV

- Rizici mogu biti:
- specifični za kompaniju (nesistematski) pogađaju samo individualnu kompaniju i mogu da se diversifikuju kroz držanje većeg broja aktiva u portfoliju (npr. loš menadžment preduzeća)
- tržišni (sistematski) pogađaju sve kompanije, ali u različitoj meri i oni ne mogu da se diversifikuju (npr. visoka inflacija u privredi)



Grafikon pokazuje da korsti od diversifikacije rastu kad se dodaju nove HoV u portfolio (pošto opada ukupni rizik), ali da te koristi nisu neograničene, jer postoji deo rizika koji ne može da se diversifikuje (sistemski rizik)

broj HoV

# Određivanje efikasnog portfolija

- Za ovaj proces razmatramo isključivo mogućnost ulaganja u rizičnu aktivu
- Investitori preferiraju portfolio A u odnosu na B ako je:
- 1. njegov očekivani prinos bar jednak očekivanom prinosu portfolija B i ima nižu varijansu od portfolija B
- 2. njegov očekivani prinos veći od očekivanog prinosa portfolija B i ima manju ili jednaku varijansu kao portfolio B
- Odnosno, investitori biraju portfolije koji donose minimalni rizik i maksimalni prinos



- Prikazana kriva predstavlja portfolije sa najmanjim rizikom za dati nivo prinosa (svi mogući rizični portfoliji se nalaze u prostoru koji je "uokviren" tom krivom)
- GMV je globalni portfolio sa minimalnom varijansom
- Deo krive iznad GMV je efikasna granica skup portfolija koji donosi najniži rizik i najviši prinos



Optimalni portfolio (tačka 0) se bira na efikasnoj granici osnovu kriva indiferentnosti konkrenog investitora, tako da on dosegne najvišu moguću krivu indiferentnosti (kriva l2 u ovom slučaju) Uvođenje bezrizične aktive karakteristike

- Bezrizična aktiva je dužnički instrument sa sigurnim prinosom
- Standardna devijacija njenih prinosa je jednaka nuli
- Kovarijansa između njenih prinosa i prinosa drugih HoV je takođe jednaka nuli
- Moguće je pretpostaviti da se u ovu aktivu investira (kada je ponder ove aktive pozitivan) ili da se investitor zadužuje po bezrizičnoj stopi, odnosno prodaje bezrizičnu aktivu na kratko (kada je ponder ove aktive negativan)



- Moguće je povući više pravih koje polaze iz tačke r<sub>f</sub> i povezuju je sa nekim portfoliom u okviru mogućeg skupa rizičnih portfolia. Sve te prave bi predstavljale kombinaciju ulaganja u bezrizičnu aktivu i konkretan rizični portfolio
- Ipak, prava sa najvišim nagibom koja dotiče krivu u tački T predstavlja kombinacije aktiva koje su najisplativije investitorima u ovom modelu - bezrizične aktive i optimalnog rizičnog portfolija

σ

Izbor konkretnog investitora u modelu sa bezrizičnom aktivom

- U ovom modelu svi racionalni investitori drže kombinaciju bezrizične aktive i optimalnog rizičnog portfolija, jer takav pristup omogućava najviši prinos za zadati nivo rizika
- Međutim, to ne znači da će svi investitori držati isti portfolio, jer će svaki izabrati različita učešća bezrizične aktive i optimalnog rizičnog portfolija, u skladu sa svojom sklonošću ka riziku, odnosno izabraće neku kombinaciju koja se nalazi na pravoj na prethodnom grafiku

Izbor konkretnog investitora u modelu sa bezrizičnom aktivom

- Investitor koji u potpunosti izbegava rizik može sva svoja sredstva da uloži u bezrizičnu aktivu
- Investitor koji je nešto skloniji riziku bi izabrao neku tačku koja se nalazi između r<sub>f</sub> i T
- Investitor koji je još više sklon riziku bi izabrao neku tačku koja se nalazi na delu prave koji je desno od T, što podrazumeva da bi on zapravo neka sredstva pozajmio po bezrizičnoj stopi, a zatim sva svoja i ta pozajmljena uložio u optimalni rizični portfolio

# Hvala na pažnji!