STAR ATLAS

State of the Economy

ATMTA, Inc.
Department of Economics

Q3 2024

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Executive Summary

Star Atlas product releases defined the quarter, leading to surges in economic activity and increased ecosystem complexity. The activation of DAO voting, alongside the release of the Star Atlas Crew, helped stabilize the initial high volatility of ecosystem tokens. Minimal changes to existing economic variables allowed players to specialize further within the current SAGE model.

The loyalty points (LP) system in Star Atlas Golden Era (SAGE) *Starbased* brought about the most stable quarterly ATLAS emissions the ecosystem has seen, ensuring equitable ATLAS earnings across factions and encouraging more consistent spending behavior.

The Star Atlas Gross Domestic Product (GDP) experienced its first quarterly decline, primarily due to reduced purchasing power and a drop in the USDC value of the ATLAS token. GDP per capita also decreased, influenced by an influx of Crew airdrop recipients who contributed minimally to economic output. All three factions saw declines in GDP, with USTUR experiencing the largest drop, while ONI and MUD were more resilient. Stable token emissions and weakening macro pressures suggest a more optimistic GDP outlook.

The raw resource market revealed distinct production behaviors in the SAGE economy. ONI were primary producers, while MUD and USTUR maintained similarly low but balanced production. Resource productivity showed USTUR specializing in raw materials, with MUD and ONI being more diversified. Higher liquidity in raw resources provided specialization opportunities, revealing the preferences of producers over the quarter.

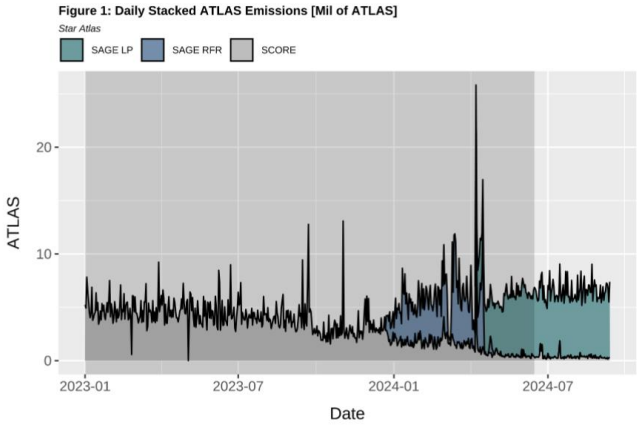
Key Highlights:

- Daily ATLAS emissions are the most stable in history, with a current quarterly emissions rate of 3%.
- Faction participants are re-circulating over 66% of ATLAS emissions back into the ecosystem.
- The citizen group saw a resurgence in membership of 10% due to renewed interest in the Star Atlas DAO due to voting activation.
- The Star Atlas GDP fell significantly due to a combination of a sharp decrease in ATLAS/USDC, alongside decreases in primary purchases as a result of the ATLAS rebase.
- The Star Atlas DAO passed PIP-1 and PIP-2 proposals. USTUR became the first faction to disapprove of a proposal in Star Atlas history.
- The MUD faction was able to fill 99% of *Starbased* ships with the minted Crew, while MUD and ONI sought to make up for the difference through secondary trading.

As players adjust to the changing economic environment, the Star Atlas ecosystem showcases its ability to adapt and thrive. The recent stabilization in ATLAS emissions, along with the maturation of the LP system, points to a deliberate effort to support balanced growth and encourage participation across faction participants.

Emissions Stability and Allocation

Token emission stability remained strong across the Star Atlas ecosystem this quarter, as the loyalty points (LP) system in the Star Atlas Golden Era (SAGE) Starbased continued to mature and player efficiency improved. Figure 1 demonstrates that this quarter's emissions were the most stable thus far, with only minimal fluctuations from the daily average, as highlighted in gray when compared to previous quarters.



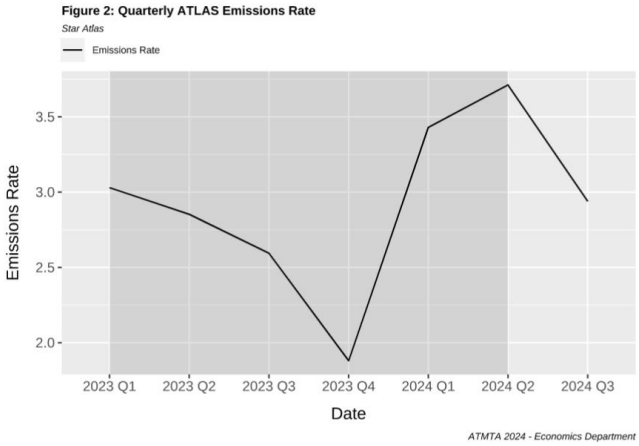
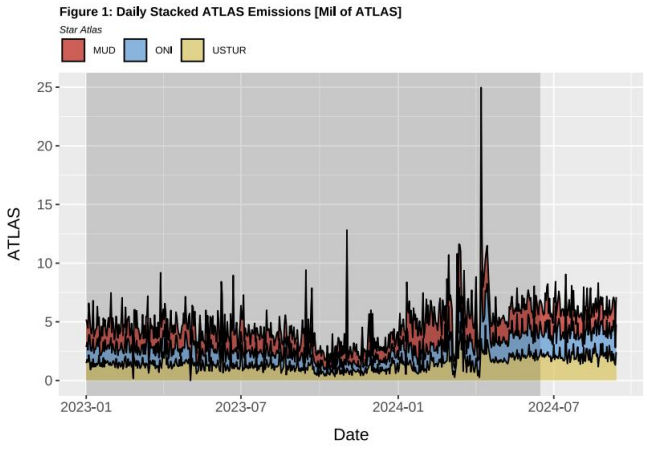


Figure 2 presents the quarterly emission rate of the ATLAS currency, with the previous six quarters highlighted in gray for comparison. Although the quarter saw an average daily emission of 6,520,228 ATLAS, the overall emission rate remained a manageable 3%, which is modest when compared to the broader market's daily ATLAS trading volume.



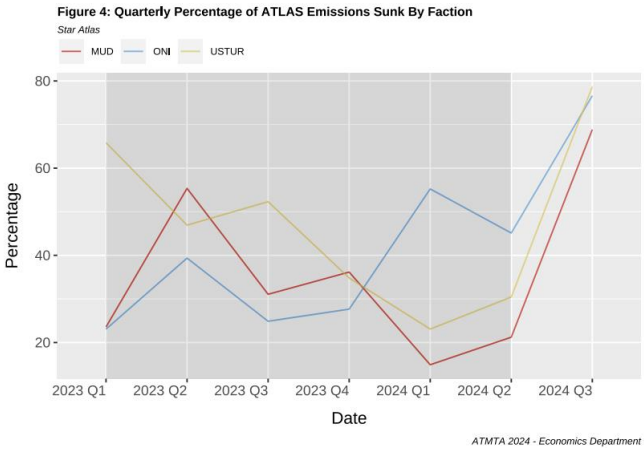


Figure 3 illustrates a more equitable distribution of ATLAS emissions among the factions. In previous quarters, the MUD faction consistently outpaced ONI and USTUR, leading to an increasing wealth disparity. However, the LP emissions structure has now ensured a balanced distribution, helping to mitigate this disparity. Figure 4 shows the percentage of ATLAS sunk per quarter, including net ATLAS locking. This quarter, all three factions significantly increased their ATLAS spending relative to the total emitted, with over 68% of the emitted ATLAS being spent or locked.

Unsurprisingly, the ATLAS currency faced significant external market pressure during the first half of the period, as liquidators of the FTX estate released token supply onto the market at an unsustainable rate. This pressure led to volatility and created uncertainty among economic

participants. However, by the latter half of the period, this pressure eased as token balances of this entity reached zero, stabilizing the ATLAS currency.[1]

The Star Atlas Census

This quarter's census showed growth among the most active members of the Star Atlas ecosystem. Improvements in internal data structures led to the elimination of around 7,000 duplicate ship accounts, which removed approximately 24 million USDC in non-resident NFT wealth recorded in the previous quarter. Additionally, sampling filters were kept consistent with those used in earlier quarters.

Table 1: Star Atlas Census (09-15-2024)

Category	Currency	NFT Owner	Voter	Employed	Freq	Frac	Wealth	WShare
Nonresident Currency	Y				77891	51.9	22.74	23.04
Nonresident NFT	Y	Y			8984	6.0	2.41	2.44
		Y			20643	13.7	6.13	6.21
Nonresident Locked POLIS	Y		Y		2815	1.9	5.17	5.24
	Y	Y	Y		1047	0.7	2.48	2.52
Residents	Y	Y		Y	28128	18.7	32.72	33.15
		Y		Y	6274	4.2	3.17	3.21
Citizens	Y	Y	Y	Y	4410	2.9	23.89	24.20
Total					150192	100.0	98.71	100.00

[a] Exclude wallets with <$0.10 in total market value

[b] Wealth measured in millions of USDC

Non-resident currency holders were the most affected by currency volatility, experiencing a 32% decline in wealth. The non-resident NFT group encountered a similar reduction, with wealth falling by 75%, largely due to the impact of duplicate accounts, which accounted for 93% of this decline.

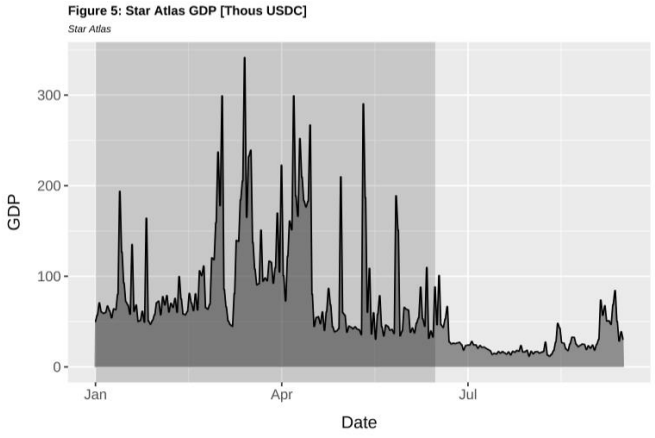
The non-resident locked POLIS group saw a total wealth decrease of 650,000 USDC (7.8%) as a result of falling token prices, but they were comparatively better off than non-resident currency holders, benefiting from their diversified holdings and POLIS locking rewards.

The resident group experienced a 3.1% increase in population this quarter, primarily driven by SCORE players transitioning into SAGE Starbased, who were previously classified as non-resident NFT and non-resident locked POLIS holders. While token price fluctuations somewhat impacted resident wealth, the main cause of the 9.6% decline was the transition of residents to citizenship following the activation of the POLIS Decentralized Autonomous Organization (DAO). In contrast, the citizen group grew by 10%, and their wealth increased by 6 million USDC (32%), signifying a notable turnaround from the previous quarter.

[1] More information on this topic can be found at hologramnews.com

Star Atlas Gross Domestic Product

The Star Atlas GDP encountered its first instance of negative growth since its inception, driven by several factors that reduced the USDC equivalent in spending and burn value compared to previous quarters. This downturn was primarily influenced by a decline in purchasing power and the reduced USDC value of a single ATLAS token. Additionally, an ATLAS rebase in the Galactic Marketplace early in the quarter removed primary discounts resulting from the token's price drop, which subsequently diminished interest in primary sales and contributed significantly to the overall decline in GDP.



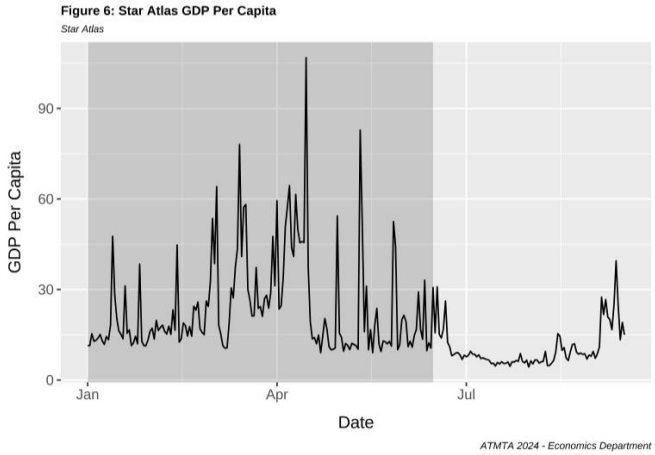
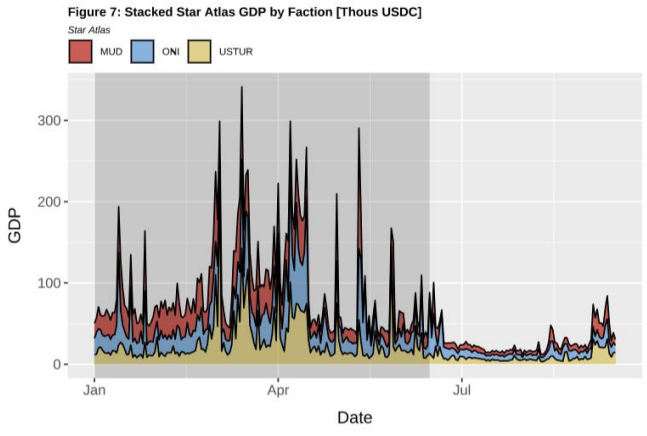


Figure 5 shows the daily GDP over the quarter, with an average of $32,682 per day, marking an approximate 65% decline from the previous quarter and resulting in a revised 2024 annual GDP projection of $21,660,615 compared to $34,121,660 in Q3. The year-to-date GDP stands at 18,196,323 USDC. Similarly, GDP per capita saw a substantial drop, averaging $10.59 USDC daily, a 79% decrease. This decline was primarily due to the influx of Crew airdrop recipients returning to the Star Atlas ecosystem, which temporarily increased the number of participants by up to 17% but added minimal economic output.



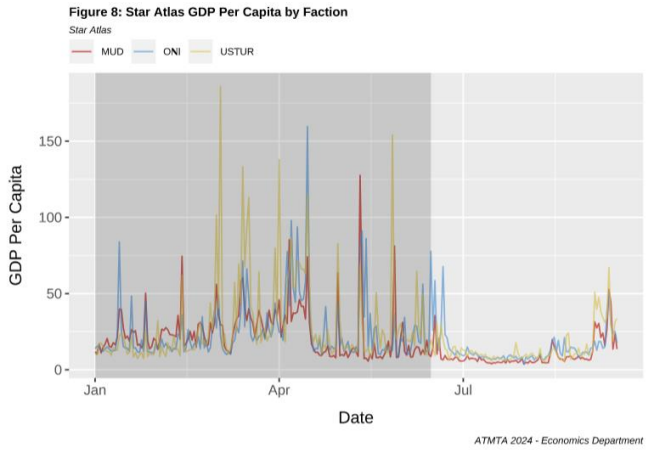


Figure 7 indicates that all three factions experienced similar downward trends in GDP this quarter, with the USTUR faction seeing the most substantial decline, at 71% in mean daily GDP. The ONI and MUD factions demonstrated slightly more resilience, with drops of 67% and 70%, respectively. Figure 8 further supports this trend, showing consistently low GDP per capita values across all factions for most of the quarter.

As with most Star Atlas economic measures, GDP is closely tied to the stability of the ATLAS currency exchange rate, with factors such as Galactic Marketplace spending behavior, production elasticity, and other influences playing a significant role in GDP calculations based on burn market value. However, the completion of token liquidations and the continued stability in token emissions suggest a more optimistic GDP outlook in the coming months.

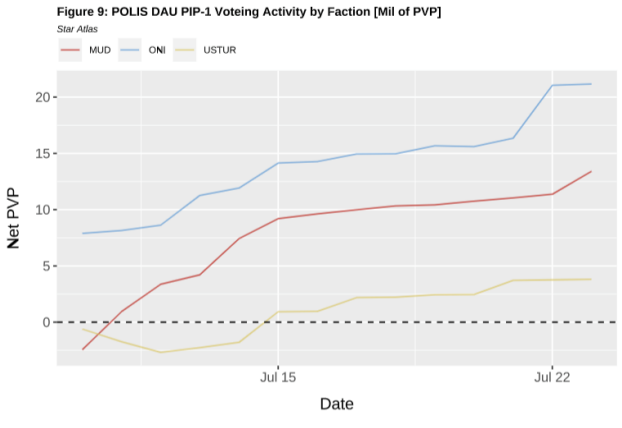
Decentralized Autonomous Voting

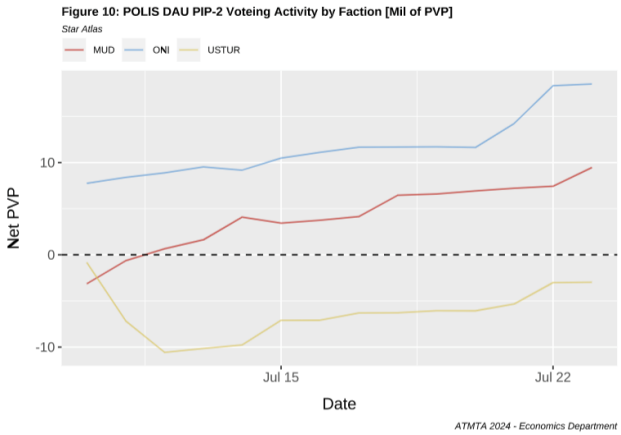
The POLIS Decentralized Autonomous Organization (DAO) initiated its first voting process this quarter, introducing two distinct Polis Improvement Proposals (PIPs) that players could participate in using their POLIS Voting Power (PVP). Table 2 provides a summary of the outcomes for these initial proposals passed through the POLIS DAO.

Table 2: Star Atlas PIP-1 and PIP-2 Result Summary

Faction	Proposal	Total POLIS	Total PVP	Voters	Result
MUD	PIP-1	3482495.12	29744472.27	286	Approve
ONI	PIP-1	4865572.02	32920259.79	280	Approve
USTUR	PIP-1	6866047.92	41428223.81	193	Approve
Total	**PIP-1**	**15214115.06**	**104092955.87**	**759**	**Passed**
MUD	PIP-2	3658202.33	31103418.55	275	Approve
ONI	PIP-2	4832375.32	32804130.63	266	Approve
USTUR	PIP-2	6994880.69	42324341.72	181	Disapprove
Total	**PIP-2**	**15485458.34**	**106231890.9**	**722**	**Passed**

PIP-1 and PIP-2 experienced comparable levels of engagement in terms of total POLIS Voting Power (PVP) and the overall number of voters, with both proposals ultimately being approved. However, PIP-1 received unanimous support across all factions, whereas PIP-2 faced disapproval totaling -2.95 million PVP from the USTUR faction, as shown in Figures 9 and 10.





Disapproval from USTUR did not prevent PIP-2 from being passed, yet the differing preferences among the factions highlight the distinct economic and political characteristics that set them apart.

Following the initial two POLIS Improvement Proposals, the Star Atlas DAO has conducted four additional rounds of voting on various initiatives, including the Star Atlas Council and the Star Atlas Ecosystem Fund. These ongoing developments in the DAO structure have encouraged greater

voting participation and deeper engagement within the Star Atlas economy, contributing to key economic indicators such as GDP.

Star Atlas Crew

This quarter introduced the Star Atlas Crew, the latest and likely final digital asset class within the Star Atlas ecosystem. Crew members play a crucial role in crafting, operating ships, and will eventually gain experience through in-game missions. As part of this release, Star Atlas ship holders who acquired ships during the GAO 1 and GAO 2 phases received free Crew through a wallet airdrop, totaling 1,194,893 Crew distributed to existing users, with an estimated value of approximately 8.9 million USDC.[2] All other Crew currently in circulation were acquired through the primary marketplace via Crew Packs.

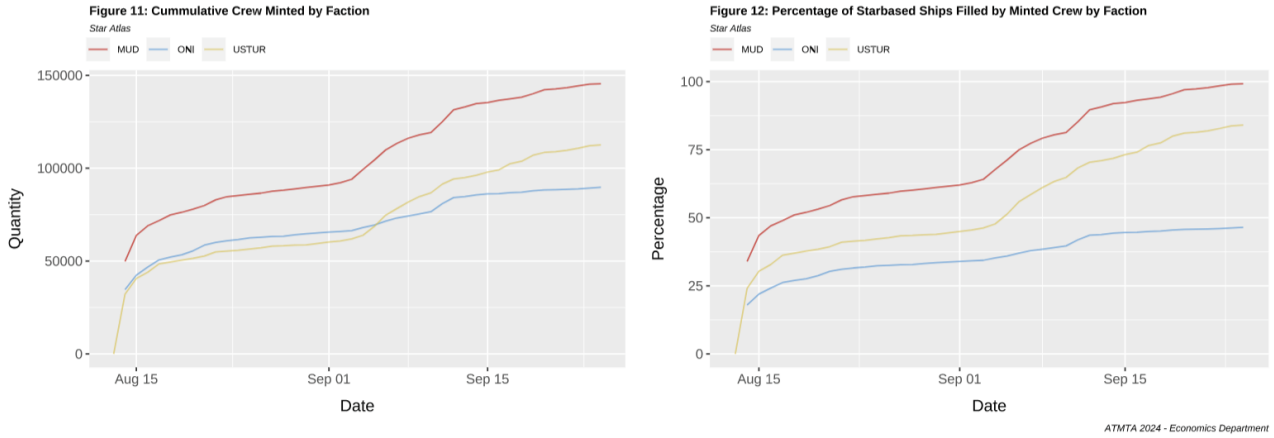
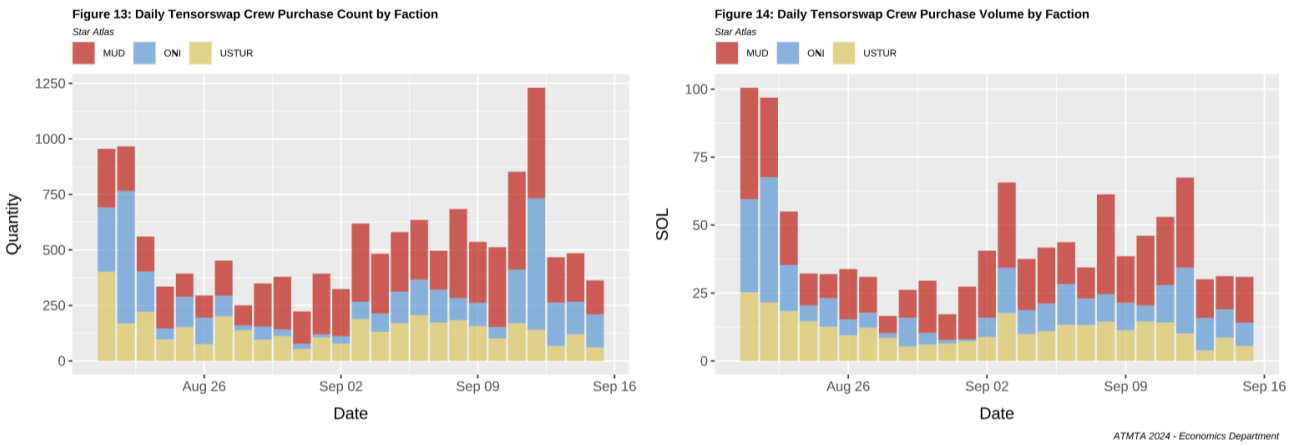


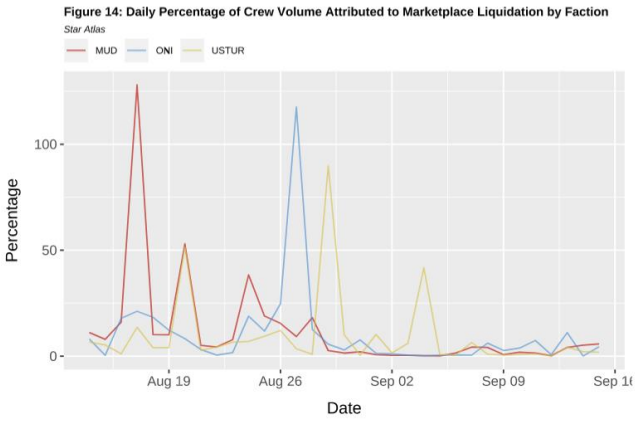
Figure 11 displays the cumulative Crew minted by each faction, totaling 347,993. When including non-faction participants, the overall minted Crew amounts to 935,680. Of this total, 94.5% were airdropped to recipients, while the remainder came from primary Crew pack purchases. Figure 12 maps this data to Starbased fleet requirements, showing that the MUD faction has minted enough Crew to staff 99.3% of its ships, whereas the USTUR and ONI factions have enough Crew to fill 84.1% and 46.5% of their fleets, respectively.

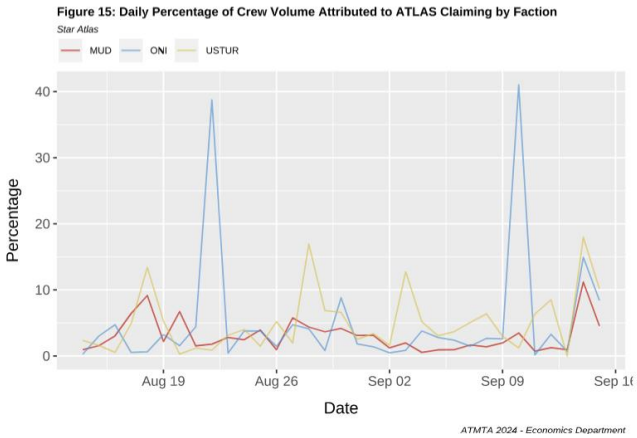


The shortfalls in minted Crew can be addressed through trading and purchasing on the Tensorswap marketplace. Figures 13 and 14 indicate that the MUD faction led in both the quantity of Crew

[2] An airdrop in the cryptocurrency sector is defined as the distribution of assets to specific wallets that meet a set of criteria laid out by a project team. .

purchased and the overall purchase volume, totaling 510 SOL (approximately 79,878 USDC) and 6,210 Crew acquired. In contrast, the USTUR and ONI factions displayed similar purchasing behavior, each recording a volume of around 300 SOL (about 50,000 USDC) and purchasing roughly 3,800 Crew members of varying rarity.





Economic participants adapted their market behavior to finance their Crew-related activities. Figure 14 illustrates the percentage of Crew trade and pack volume funded by players liquidating assets on the Galactic Marketplace. Values exceeding 100% suggest that Crew activities were fully financed through asset sales. Throughout the period, faction activity remained relatively consistent, averaging between 9-11%, with interest in this form of subsidization gradually declining in the latter half of the quarter.

Figure 15 presents a different perspective, focusing on subsidization through the use of ATLAS claimed in SAGE Starbased. The ONI and USTUR factions averaged 5%, while the MUD faction averaged 3%. This funding method was favored by all three factions, demonstrating a more consistent allocation of ATLAS toward Crew trading and pack purchases throughout the period.

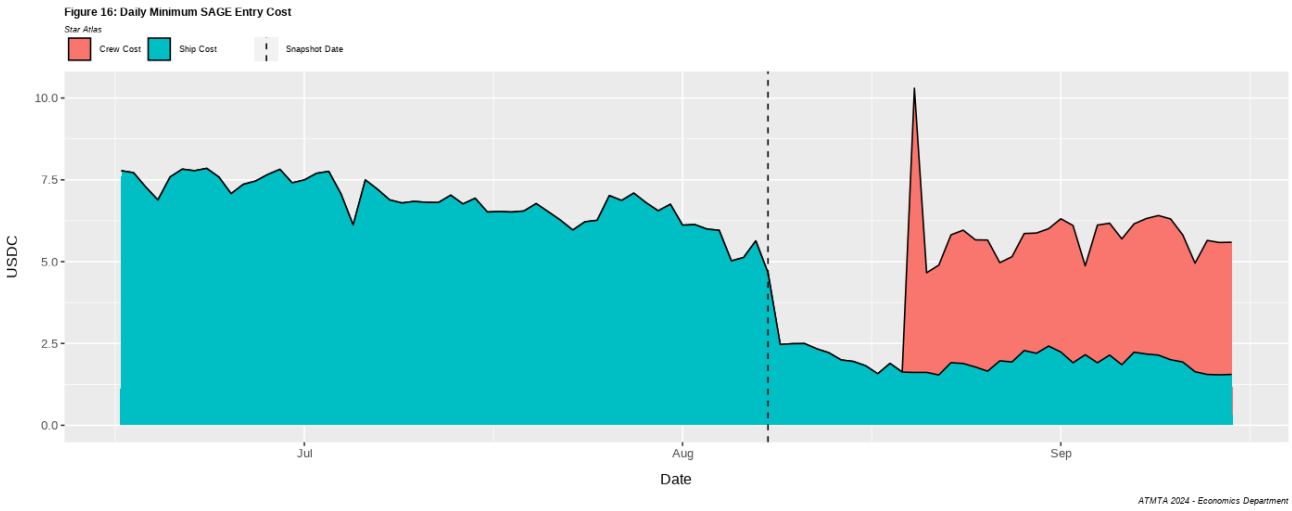
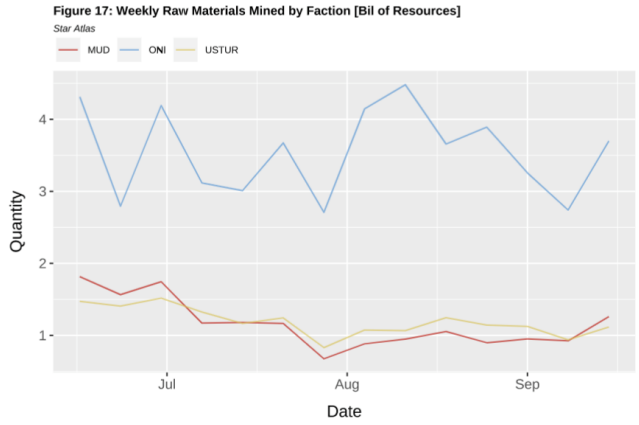


Figure 16 addresses a common concern regarding gameplay impacts on lower-tier ships, specifically the entry cost for new players. The 'Ship Cost' represents the lowest price of an xx-small class ship on a given day, while the 'Crew Cost' reflects the lowest or floor price of a Crew card on the Tensor marketplace. Notably, the overall cost of entry has remained unchanged before and after the Crew airdrop, maintaining an average of approximately 5.56 USDC.

Star Atlas Golden Era

This quarter, raw resources (R9) and compound material production emerged as focal points of interest. As foundational stages in the production process, particularly when compared to components and upgrade materials, these sectors witnessed early faction-specific specialization, leading to distinct differences and opportunities within the markets that were visible throughout the period.



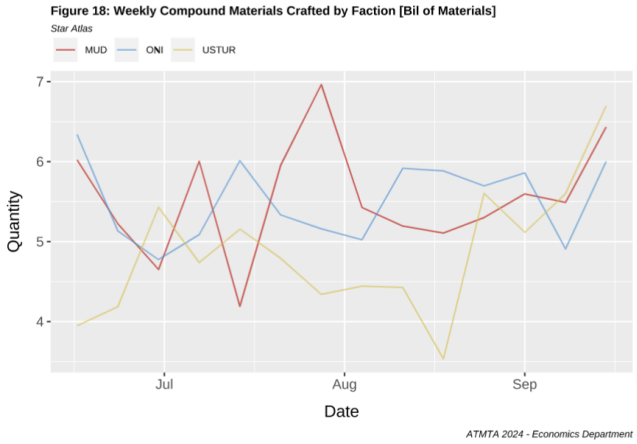
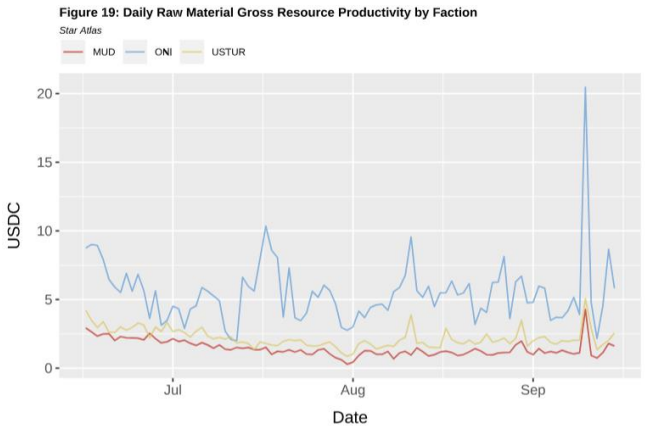
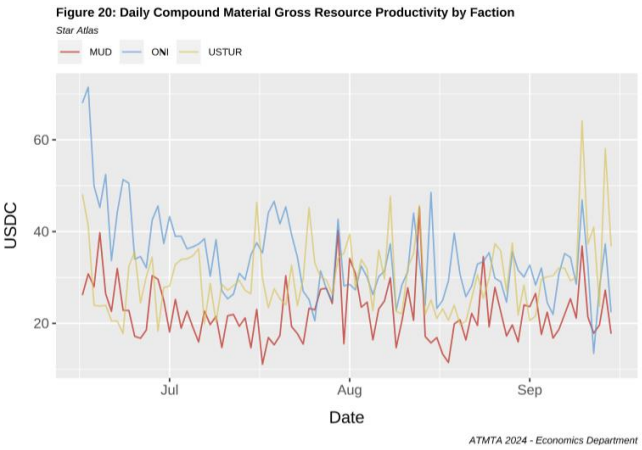


Figure 17 reveals notable behavioral differences among the factions. Producers in the ONI faction exhibited substantially higher production capabilities, with mean production levels 82% greater than those of the MUD and USTUR factions, which produced 1.3 billion units per week compared to ONI's 3.1 billion units. As future gameplay features, such as local markets, are introduced, players producing raw resources in the MUD and USTUR factions may need to expand their production capacities to remain competitive.

Figure 18 shows a less pronounced distinction, with both the MUD and ONI factions marginally outperforming the USTUR faction in compound resource production. Producers in this sector exhibit lower sensitivity to price fluctuations, as compound resources are traded far less frequently than raw resources which is explored later. This reduced market reactivity stems from a shift in objectives, as the focus moves from raw resource production toward earning LP rewards through starbase upgrading and upkeep.

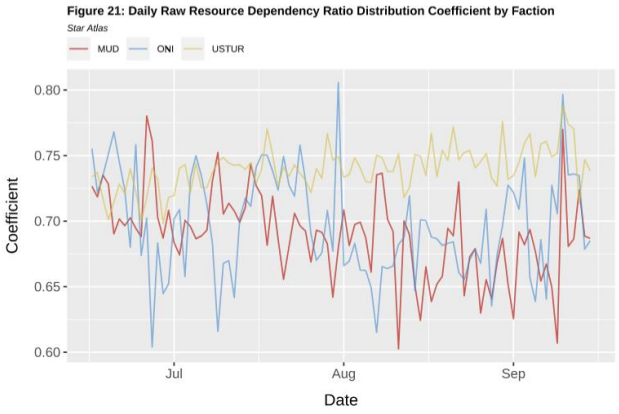


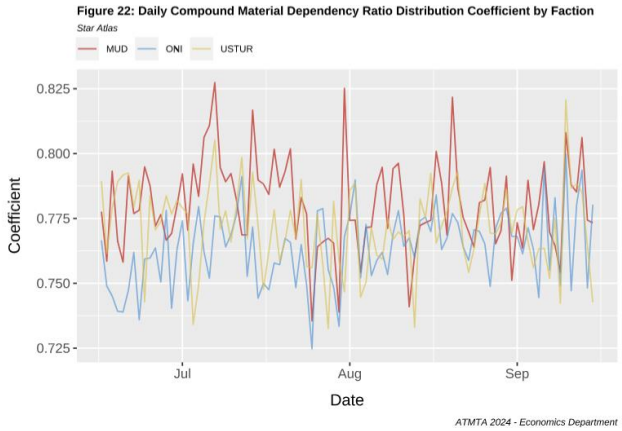


Gross resource productivity (GRP) serves as an indicator of operational efficiency. Figure 19 demonstrates the output per mining operation across factions within the raw resource market, with ONI achieving significantly higher output, peaking at 20 USDC per operation and ranging between

2.48 and 10.08 USDC throughout the quarter. The MUD faction's relative underperformance can be partly attributed to its 15% higher number of mining operations, while the USTUR faction exhibited overall inefficiency in this area.

Figure 20 examines the GRP for compound material crafting, revealing a more consistent range of productivity across factions. As production advances to more complex stages, faction performance tends to converge, reflecting shared objectives in starbase upgrades and maintenance. Although ONI maintained a slight edge with USTUR closely following, all three factions successfully met their crafting requirements, with MUD emerging as the largest net buyer of compound materials during the period.





The resource dependency ratio evaluates the market value of a given resource relative to the total market values of all resources within its category. The coefficient shown in Figures 21 and 22 indicates how evenly the dependency ratios are spread across each faction. The USTUR faction, with the highest coefficient in the raw resource category, demonstrates greater specialization in specific resource production, whereas MUD and ONI, with lower coefficients, produce a wider variety of resources, as illustrated in Figure 21.

Figure 22 reveals less variation in production specialization within the compound material category as the production process progresses toward starbase maintenance and upgrades. This suggests increased market competition as players move up the production chain. In this context, LP contributors benefit from greater options when sourcing crafting ingredients for starbase upgrades, while resource sellers find more opportunities by focusing on the raw material market, where specialization offers a competitive advantage.

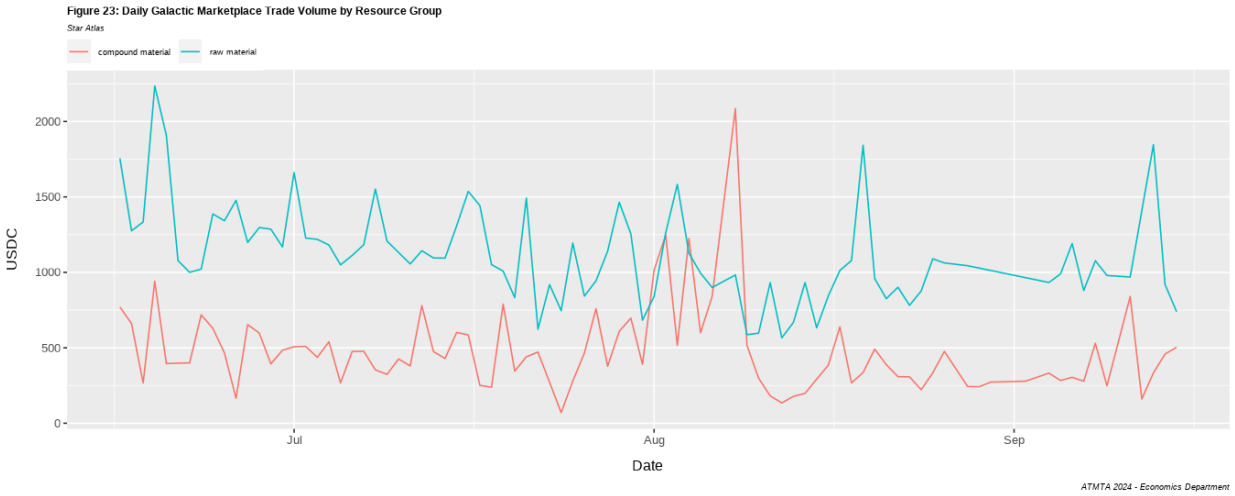


Figure 23 illustrates the liquidity of these resource groups, further emphasizing the advantage of specialization within the raw resource sector this quarter, which exhibited nearly twice the liquidity of the compound material market. This disparity in liquidity can be partly attributed to the fact that it is easier for individual players to produce the compound materials required for their operations rather than purchasing them from the market, unlike raw resources, which are more frequently traded.

Conclusion

This quarter signified a transformative phase in the Star Atlas economy, as the ecosystem adapted to token volatility, GDP trends, and the initiation of decentralized governance. The enhanced stability of ATLAS emissions through the LP system and the activation of POLIS DAO voting marked a significant step towards deeper community engagement and more structured economic management.

Despite facing challenges from market volatility and declining GDP, the Star Atlas economy displayed resilience and adaptability, with factions modifying their production strategies in response to evolving market conditions. The observed differences in quantity produced, production efficiency, and the increasingly strategic specialization opportunities factions underscored the ecosystem's potential for sustained growth moving forward.

Looking forward, the groundwork has been laid for continued expansion and player involvement within Star Atlas. The expansion of gameplay mechanics, Crew deployment, and resource production in SAGE promises a future that offers players new avenues for economic specialization within the ecosystem.