

# Dezentrale Anlagestrategien

## *Anwendungsmöglichkeiten Dezentraler Börsen*



# Rückblick: Krypto-Finance Circle am 22.11.2021



Krypto-Firmen setzen Traditionsbanken unter Zugzwang

Kategorie: Finanzplatz Dienstag, 23. November 2021 07:02



Schlagzeilen zu Kryptowährungen gibt es derzeit jeden Tag. Experten haben am jüngsten Finance Circle diskutiert, wo Traditionsbanken radikal umdenken müssen.

Sind digitale Assets und die Blockchain-Technologie alles nur Modeerscheinungen, also ein Hype, oder werden Bitcoin & Co. die Finanzwelt vollkommen revolutionieren? Mit diesem Thema beschäftigte sich der Finance Circle, die Bildungsveranstaltung der School of Management & Law (SML) der Zürcher Hochschule für Angewandte Wissenschaften (ZAHW) und des Zürcher Bankenverbandes, am Montagabend.

Dabei sprachen **Marcus Wunsch**, Dozent der ZAHW/SML, **Mathias Studach**, Head Finance & Risk an der SIX digital Exchange (SDX), und **Stephan A. Zwhalen**, CEO des Bankhauses Maerki Baumann & Co, mit unterschiedlichen Beispielen die aktuellen Entwicklungen an. Dozent Wunsch illustrierte die Bedeutung der Krypto-Welt mit einem einfachen Zahlenvergleich:

## Key takeaways:

- **Zugzwang:** Krypto-Firmen setzen traditionelle Banken durch effizientere Technologien unter Druck
- **Tokenisierung:** Blockchain-basierte Abwicklung von Vermögenswerten
- **Anlagehorizont:** langfristig mit hohen Renditenchancen

## Reality Check

**These 1:** *In 5-6 Jahren werden rund 10% aller Vermögenswerte weltweit auf der Blockchain verwaltet*

- × Derzeit weniger als 5% aller Vermögenswerte weltweit tokenisiert
- ABER: grosses Potenzial für die Zukunft

**These 2:** *Langfristiger Anlagehorizont*

- Ca. 10% CAGR (12/2021-02/2025)
- ✓ Drawdown: 12/2021-11/2024

Quelle: [Finews](#)

# Kryptowinter: Zeit für *Forschung & Lehre*



Quelle: ChatGPT

## Weiterbildungen

- WBK Decentralized Finance
- CAS Blockchain & Decentralized Finance

Weiterbildungskurs Decentralized Finance (DeFi)



## CAS Blockchain & Decentralized Finance

Der CAS Blockchain & Decentralized Finance ist in seiner Konzeption einzigartig: Er kombiniert die Themen Blockchain, Kryptowährungen und Decentralized Finance (DeFi), die einen starken Einfluss auf die Finanzbranche ausüben. Die wachsende Verbreitung von Kryptowährungen und dezentralen Finanztechnologien erfordert eine entsprechende Expertise bei professionellen Anlageberater:innen und Fachkräften in der Finanzbranche.

## Forschung

- Dezentrale Börsen / Automated Market Makers
- Volatilitätshandel
- Portfoliomanagement



# Wissenschaftliche Publikationen

## Weighted variance swaps hedge against impermanent loss

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### Impermanent Loss in Decentralized Finance can be hedged with weighted variance swaps

#### 1. Introduction

Decentralized Exchanges (DEXes) allow users to trade in a fully noncustodial manner. Traders can directly swap their digital currencies using a smart contract, a program running on the blockchain, rather than trusting a central counterparty with their funds. In the early stages, the low throughput of blockchains required another trading model than the traditional order book approach, which gave rise to Automated

require that liquidity providers deposit the pair subject to equal value (e.g. when BTC is at 20 000 USD, the ratio of BTC to USD deposited has to be 1:20 000), so that liquidity providers cannot choose the relative amount of the digital currency they deposit.

When the exchange rate of the digital currencies moves, the liquidity provider's portfolio is subject to price risk. In fact, neglecting trading fees, liquidity providers are worse off when the price moves away from the original exchange

## Model-Free Hedging of Impermanent Loss in Geometric Mean Market Makers with Proportional Transaction Fees

Masaaki Fukasawa<sup>a</sup>, Basile Maire<sup>b</sup> and Marcus Wunsch<sup>c</sup>

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#### ABSTRACT

We consider Geometric Mean Market Makers (G3Ms) – a special type of Decentralized Exchange – with two types of traders: liquidity takers and arbitrageurs. Liquidity takers use G3Ms to swap tokens and to speculate, while arbitrageurs exploit arbitrage opportunities arising from misalignments between the G3M's price and the external market price. We show that in continuous time, a G3M charging proportional transaction fees offers exchange rates that are of finite variation, and that the opportunity cost of providing liquidity relative to rebalancing a self-financing constant-weights portfolio is, in fact, a non-negative gain. Moreover, we demonstrate that Impermanent Loss can be super-hedged in continuous time by a model-free rebalancing strategy. We conclude with a numerical analysis discussing the approximative nature of our continuous-time results for trading in discrete time.

#### ARTICLE HISTORY

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#### KEYWORDS

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decentralized finance;  
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impermanent loss;  
loss-versus-rebalancing



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RESEARCH ARTICLE

## Market Neutral Liquidity Provision

Basile Maire,<sup>a†</sup> Marcus Wunsch<sup>‡</sup>

**Abstract.** Automated Market Makers with concentrated liquidity have to date achieved market dominance among competing spot trading AMM models in Decentralized Finance. We shift the prevalent research focus on liquidity providers' loss metrics, such as Impermanent Loss or Loss-Versus-Rebalancing, to a market neutral strategy. We derive a hedge portfolio which allows for concentrated liquidity provision while maintaining market neutrality. We present an example of the hedge portfolio and highlight the practical restrictions. The hedge portfolio consisting of options and futures requires a significant capital outlay compared to the amount of liquidity provided, but typically earns carry from futures contango.

➤ Wie sichert man sich als Liquiditätsbereitsteller gegen die Informationsasymmetrie in Dezentralen Börsen ab?

➤ Kann man mittels Liquiditätsbereitstellung ein Portfolio mit konstanten Gewichten managen (lassen)?

➤ Wie stellt man Liquidität bereit, ohne den Marktschwankungen der zu Grunde liegenden Kryptowährungen ausgesetzt zu sein?

# Dezentraler Volatilitätshandel

## Weighted variance swaps hedge against permanent loss

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#### – Variance swap



- Realisierte Varianz ↔ feste Varianz
- Spekulation auf / Absicherung gegen Änderungen der Varianz

- **Liquiditätsbereitsteller**: ermöglichen Handel mit digitalen Vermögenswerten auf Dezentralen Börsen (DEX)
- **Preisfindung**: durch Arbitrage zwischen DEX und anderen Krypto-Börsen
- **«Impermanent Loss»**: starke Preisänderungen führen zu überproportional grossen Verlusten relativ zum Buy-and-Hold Portfolio
- **Short volatility trade**:
  - Leerverkauf des Buy-and-Hold Portfolios
  - Liquiditätsbereitstellung der leerverkauften Assets
  - Synthetisches short volatility Portfolio (perpetual)
- **Volatility arbitrage**

# Liquiditätsbereitstellung als dezentrales Portfoliomanagement

APPLIED MATHEMATICAL FINANCE  
2024, VOL. 31, NO. 2, 108–129  
<https://doi.org/10.1080/1350486X.2024.2404058>

 **Routledge**  
Taylor & Francis Group

 Check for updates

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## 1. Introduction

### 1.1. Automated Market Maker

– Annahmen:

– Proportionale **Transaktionskosten**

– Perfekter **Wettbewerb** zwischen Arbitrageuren

➤ Konsequenz:

– Liquiditätsbereitstellung entspricht einer **Portfoliostrategie mit festen Gewichten**

➤ **Dezentrales Portfoliomanagement** ohne Fremdverwahrung (d.h. ohne Bank, Broker o.ä.)

# Marktneutrale Liquiditätsbereitstellung



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RESEARCH ARTICLE

## Market Neutral Liquidity Provision

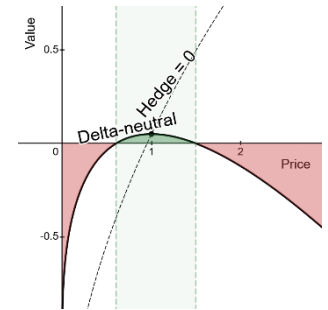
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### 1. Introduction

## Liquiditätsbereitstellung als Einkommensstrategie

- Einkommen aus den Transaktionsgebühren
- Absicherung gegen Marktschwankungen



## Andere DeFi-Einkommensstrategien

- Staking, lending, yield farming
- Meistens variable Zinssätze («APY»)
- Protokolle mit festem Zins

Market	Total TVL	Implied APY
Ⓢ USDe (1) 27 Mar 2025 (16 days)	\$523.19M	16.96%
Ⓢ eUSDe (1) 29 May 2025 (79 days)	\$225.75M	14.11%
Ⓢ sUSDe (1) 27 Mar 2025 (16 days)	\$1.47B	13.7%
Ⓢ iUSDe (1) 29 May 2025 (79 days)	\$387.98M	11.59%
Ⓢ USDe (1) 31 Jul 2025 (142 days)	\$6.77M	10.86%

# Vielen Dank!

