

# CERTIFICATE

## VALIDATION CERTIFICATE FOR THE AUTOMATED VALUATION MODELS (HEDONIC RATE MODELS SWITZERLAND) OF IAZI AG – CIFI SA

To whom it may concern

I hereby certify that I have been instructed by IAZI AG – CIFI SA, Thurgauerstrasse 36, 8050 Zürich, to conduct a critical analysis of the hedonic property rate models under IAZI license since 2003.

I have no financial interest in IAZI AG, I am not a stakeholder in the company, and I am totally independent from its managers and owners. I have known the managing team for a long time, having worked with them in the context of various scientific research projects.

I am a Professor of Real Estate Finance at the University of Geneva and a Professor of Finance at the University of Aberdeen. I serve on the Board of Directors of AZEK, the Swiss Training Centre for Investment Professionals, and I preside over the Examination Commission of the Swiss Financial Analysts Association (SFAA). I've also served as a Board Member and Past President of the International Real Estate Society (IRES) and of the European Real Estate Society (ERES) and have received several awards for my contributions to real estate research. In academia, I contribute as an Editorial Board Member for respected journals, including the Journal of Real Estate Finance and Economics and others. My research focuses on real estate portfolio construction, index development, and housing economics. I also actively engage in industry-related committees and boards, such as the Research Committee of the European Public Real Estate Association (EPRA) and the Board of the European Commercial Real Estate Data Alliance (E-CREDA).

I believe to have the adequate knowledge, skills, and competences to execute this mandate.

### **Two hedonic rate models for Switzerland were subject of this validation process:**

1. GIR – Capitalization Rate for Investment properties
2. FCF – Discount Rate for Investment properties

For the proper execution of the mandate, I received a detailed report with a description of the methodology, its evolution through time, and the internal



testing and validation results of the hedonic rate models. The document may be consulted by IAZI's banking or institutional clients upon request. This document served as basis for a two-day audit conducted on the 24<sup>th</sup> and 25<sup>th</sup> of October 2023 at the IAZI offices in Zurich.

The following subjects were critically discussed and reviewed during the two-day audit with the IAZI quantitative model specialists.

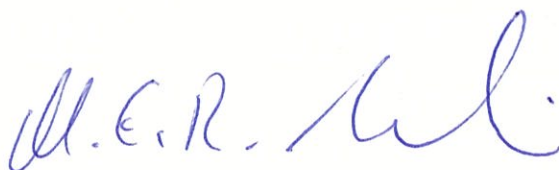
An examination of the data used to calibrate the models, their sources, the way the data are processed, and the descriptive analyses enabled me to assess the extent to which the models are representative. To calibrate its rate models, IAZI uses the transaction prices, valuations, income statements and object characteristics of the properties held by its institutional clients. After the data are delivered by the clients, IAZI ensures that duplicates or erroneous data are excluded from the analyses. IAZI has the largest investment property database in Switzerland with a market value of around CHF 250 billion. This database is complemented with geographically referenced data, that have an impact on property prices in Switzerland and that are available from both public and private sources. The inspection shows that IAZI has sufficient data for the development of reliable rate models.

The methodology applied to identify the most appropriate models is in line with international academic practices. The model specialists in charge of calibration, internal validation and improvements have the appropriate technical qualifications.

The model preparation process for the distribution to the clients, the quality control methods employed, and the IAZI-internal validation reports are adequate. The IT components (DLL, web services, programs and database) undergo strict controls to identify possible operational dysfunctions.

Under the terms of this mandate and in compliance with the confidentiality agreements between IAZI and its clients, I had unrestricted access to all internal information, data and documents relating to the production and distribution of its hedonic rate models. I certify that the hedonic rate models licensed by IAZI comply with international industry standards in terms of model accuracy, scientific rigor, operational quality controls and qualified personnel. The appropriate use of the models by IAZI's clients was not part of this mandate.

I therefore certify that the use of the IAZI AG hedonic rate models within the application limits as recommended by IAZI, enable an unbiased calculation of property specific capitalization rates and discount rates.



**Prof. Dr. Martin Hoesli, FRICS**

Professor University of Geneva and University of Aberdeen