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Legal Consequences of Differences in Transaction Values ... (Safira Karenina Moertihari & Taufan Fajar Riyanto)

Legal Consequences of Differences in Transaction Values in Land Sales and Purchase Deeds and the Real Prices Before The Land Deed Official

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Abstract. This study aims to determine and analyze the legal consequences arising from the difference in transaction value in the land sale and purchase deed with the real price before the Land Deed Making Officer and to determine and analyze the legal responsibility for the Land Deed Making Officer (PPAT) for the difference in transaction value with the actual price in the Sale and Purchase Deed (AJB). This study is an empirical normative legal research, namely legal research on legal norms, legal practices and also common legal behaviors and finding legal opinions and explaining legal realities that are descriptive and value-free. The formulation of the problem that the researcher took was what are the legal consequences of the sale and purchase deed made by the PPAT related to the difference in the price that is not actual and what are the legal consequences of the sale and purchase deed that does not correspond to the real price. The results of the study explain that the validity of the Sale and Purchase Deed (AJB) made by the Land Deed Making Officer (PPAT) related to the difference in the price that is not actual causes the deed to be legally flawed. Legal consequences The difference in transaction value in the land sale and purchase deed with the real price gives rise to legal consequences in the fields of taxation and criminal law.

Keywords: Differences in Transaction Value; Land Deed Making Officials; Land Sale and Purchase Deeds; Legal Consequences; Real Price.

1. Introduction

The phenomenon of discrepancies between the transaction value in a land sale and purchase deed (AJB) and the actual price is a common problem in land sales in Indonesia. In many cases, the value stated in the AJB does not reflect the actual price agreed upon by the parties. This occurs for various reasons, ranging from a desire to conceal the true value of the transaction to the ignorance or negligence of the parties and the official who prepared the deed. This discrepancy in value is not merely a figure on paper, but rather reflects a discrepancy between the actual transaction facts and the legal documents that form the basis for the transfer of land rights. This situation raises serious issues because the deed of sale is a legally binding document and serves as valid evidence in the transfer of land rights.² One example of a case reflecting the discrepancy between the transaction value in the Deed of Sale and Purchase (AJB) and the actual price occurred in the Supreme Court of the Republic of Indonesia Decision Number 3537 K/Pdt/2018. In this case, it was discovered that the land sale and purchase transaction value stated in the deed was much lower than the actual price agreed upon by the parties. As a result, a dispute arose between the buyer and the seller's heirs, who felt aggrieved because the value stated in the Deed of Sale and Purchase did not reflect reality. The Supreme Court in its decision stated that the deed was legally flawed because it did not reflect material truth. This case sets an important precedent that discrepancies between the transaction value in the deed and the actual price can lead to the cancellation of the deed, even leading to claims for compensation and legal liability against the Land Deed Official (PPAT) who prepared the deed.

The Land Deed Official (PPAT) must also be able to verify and clarify the information provided by the parties before drafting the deed. This is crucial to prevent manipulation of transaction values, which could harm one of the parties or lead to future legal issues. The PPAT must conduct a thorough and in-depth examination, including requesting relevant supporting evidence, to ensure the transaction value stated in the deed is accurate. reflect the actual agreement. Thus, the PPAT acts as a guardian of the validity of the legal documents that form the basis for the transfer of land rights, as well as protecting the interests of the parties involved in the transaction. However, in in practice, Land Deed Official often face various obstacles and challenges in carrying out their duties. One of these is pressure from parties who want to list transaction values

¹Limbong, T. M., Dewi, A. T., & Sitompul, R. M., (2022), "Tanggung Jawab Ppat Atas Bea Perolehan Hak Atas Tanah Dan Bangunan (BPHTB) Pada Akta Jual Beli Tanah Dan Bangunan Di Kota Medan", *Law Jurnal*, Vol. 3 no. 1, p. 57-69.

²Al Aufia, A. N. (2024), "Kepastian Hukum Akta Jual Beli yang dibuat Oleh Pejabat Pembuat Akta Tanah Terkait Nominal Harga yang Tidak Sebenarnya di Kabupaten Bogor" p. 23 https://dspace.uii.ac.id/bitstream/handle/123456789/50177/22921005.pdf.sequence=1&isAllow_ed=y (Doctoral dissertation, Universitas Islam Indonesia), accessed on July 2, 2025 at 09.00

³Putri, Y. (2023), "Bea Perolehan Hak Atas Tanah Dan Bangunan (Bphtb) Terhadap Akta Jual Beli

Putri, Y. (2023), "Bed Perolenan Hak Atas Tanan Dan Bangunan (Bpnto) Ternadap Akta Judi Beli Dalam Peraturan Perundang Undangan" (Doctoral Dissertation, Magister Kenotariatan).

that differ from the actual price for various reasons. Differences between the transaction value stated in a land sale deed and the actual price can have significant legal implications. One possible consequence is the cancellation of the deed by the court if it is proven that the stated value does not reflect reality and is detrimental to one of the parties. Furthermore, the aggrieved party can file a claim for compensation against the other party or even against the Land Deed Official (PPAT) if negligence or deliberate negligence is found in the deed's preparation. Not only that, differences in transaction value can also give rise to administrative sanctions or other legal actions in accordance with applicable laws and regulations, so these legal consequences must be a serious concern in every land sale and purchase transaction.

The conflict between the principles of material truth and formal truth is at the heart of the problem in cases of discrepancies in transaction values in land sale and purchase deeds. The principle of material truth requires that the contents of the deed reflect the actual facts, namely the actual price agreed upon by the parties to the transaction. In contrast, the principle of formal truth refers only to the formal truth of the document, namely a deed drawn up by an authorized official and fulfilling formal requirements without guaranteeing the truth of its material content. This discrepancy between material facts and formal documents can undermine the principle of legal certainty, because the deed, which should serve as strong evidence, may not reflect the actual facts. This has the potential to give rise to doubt, disputes, and injustice for the parties to the transaction.

In the practice of drafting land sale and purchase deeds, Land Deed Officials (PPATs) play a crucial role in ensuring that the transaction value stated in the deed reflects the reality on the ground. However, PPATs often face various obstacles that complicate this task. One major obstacle is the lack of adequate oversight from relevant agencies, resulting in the frequent occurrence of discrepancies in transaction values without effective preventive measures. Another obstacle comes from the ignorance or lack of understanding of the parties regarding the importance of stating the correct transaction value and in accordance with the real price, so that they tend to agree to an inaccurate value in the deed. Based on the phenomena and problems described, the researcher chose the title "Legal Consequences of Differences in Transaction Values in Land Sale and Purchase Deeds with Real Prices Before Land Deed Officials" as the focus of the research.

⁴Winahyu, F., (2022), "Peran Pejabat Pembuat Akta Tanah Dalam Proses Pendaftaran Peralihan Hak Atas Tanah Dan Pembayaran Pajak Bphtb Atas Jual Beli Tanah Dan Bangunan Di Kabupaten Pati", Master's thesis, Universitas Islam Sultan Agung Indonesia https://www.proquest.com/openview/382e6325bc978a562814234c9e2eb9b8/1?pqorigsite=gscholar&cbl=2026366&diss=y, accessed on July 3, 2025, at 07.00.

⁵Soenarto, M. I. (2023), Keabsahan Akta Jual Beli Berdasarkan Putusan Pengadilan Yang Menyatakan Pejabat Pembuat Akta Tanah Dan Penjual Melakukan Perbuatan Melawan Hukum (Studi Putusan Pengadilan Negeri Lamongan Nomor 41/Pdt. G/2019/PN. Lmg), (Doctoral dissertation, Universitas Narotama)

This title was chosen because it specifically highlights the main problem that often occurs in land sale and purchase practices, namely the discrepancy in transaction values that impact legal aspects. This research focuses on the legal consequences and the role of Land Deed Officials (PPAT), and aims to provide a comprehensive understanding and practical solutions to address these problems. The selection of this title is expected to make a real contribution to strengthening legal certainty and justice in the process of making land sale and purchase deeds in Indonesia.

2. Research Methods

The type of research used in this study is normative research. This type of normative juridical research is very relevant for use in research that aims to examine the legal consequences of an event or legal action. The approach method used in this study is normative juridical. The type of data used in this study is secondary data. Secondary data consists of scientific works such as books, journals, articles, and legal doctrines that discuss legal theories, principles of legal certainty, justice, and legal protection. The data collection method is through literature study or document study.

3. Results and Discussion

3.1. Legal Consequences Arising from the Difference in Transaction Value in a Land Sale and Purchase Deed and the Real Price Before the Land Deed Making Official

The difference in transaction value between that stated in the Deed of Sale and Purchase (AJB) and the actual price on the ground is a legal issue that impacts various aspects, from civil, administrative, to criminal. In the civil context, a deed containing information that does not correspond to the facts can be considered flawed in intent or even substance, which ultimately affects the validity of the deed. If one party feels aggrieved, a lawsuit for cancellation or correction of the deed can be filed as an effort to restore the legal situation. From an administrative perspective, this difference has a direct impact on the fulfillment of tax obligations that are the right of the state. The deliberate underreporting of the value difference is a ploy to reduce the burden of BPHTB (land tax) and PPh.

From a criminal perspective, discrepancies in transaction values can meet the elements of a tax crime or tax evasion if proven to be deliberate. Intentionally reducing the value of an official document to avoid state obligations indicates a violation that is not merely administrative. When this practice is carried out jointly by the seller, buyer, and assisting parties, their involvement can be categorized as participation in a criminal act. The evidentiary process usually relies on actual transaction data, proof of payment, and statements from the parties. Possible sanctions include tax shortfalls and fines, up to the threat of imprisonment

according to statutory provisions. According to a statement from Mrs. Sri Wahyuni Sugianto SH, M.Kn., a notary in Semarang City, a discrepancy between the transaction value in the Land Sale and Purchase Deed and the actual price not only raises criminal issues but also violates tax law.

In addition to tax crimes, general criminal law aspects also potentially apply, particularly regarding forgery or providing false information in authentic deeds. Even if the Deed of Sale and Purchase (AJB) has been signed by the parties and validated by the Land Deed Official (PPAT), if the contents do not correspond to the facts, the deed can be used as evidence of falsification. This can ensnare both the parties providing false information and those who assisted in drafting the deed. The resulting losses are not only in the form of potential lost taxes but also in the form of decreased public trust in the land administration system. The long-term impact is a weakening of legal integrity in the land sector.

Differences in transaction values also undermine legal certainty regarding land ownership. If a tax audit or other audit is conducted by the relevant authorities, discrepancies in the values found can lead to corrections or even cancellation of the transfer of ownership. This situation risks harming buyers who already have physical possession of the land, especially if they are unaware of the valuation manipulation. Sellers also face consequences, as they may still be required to pay the tax shortfall or be subject to administrative sanctions. This reduces the parties' sense of security in the transaction. Therefore, transparency is a crucial principle in the land purchase and sale process.

The impact of differences in transaction values is not only felt by the parties involved but also affects the country's legal and administrative systems. Inaccurate data at the National Land Agency (BPN) and the Regional Revenue Agency (Bapenda) can lead to errors in determining the NJOP (Value-Scale Value) and potential future taxes. This, in turn, causes losses for local governments in the form of reduced revenue sources. Repeated manipulation of transaction values can foster a negative public perception that administrative violations are commonplace.

In relationships between parties, agreements to lower the transaction value can sometimes backfire. Even if initially mutually agreed upon, one party may report the act as fraud if they feel they have been wronged. This situation can trigger a lawsuit for damages or the cancellation of the deed. This demonstrates that even if the agreement is made, legal consequences can still arise later. The existence of an initial agreement does not automatically eliminate legal risk. Therefore, differences in transaction value are a potential latent problem.

In addition to formal sanctions, reputational risks also loom for Land Deed Officials (PPATs) involved in creating Deeds of Sale and Purchase (AJB) with an incorrect

value. Although PPATs often argue that they are simply recording statements from the parties, the public may perceive them as facilitating legal violations. A tarnished reputation can impact career prospects and public trust in the PPAT profession. Integrity is a key asset that must be maintained, given that PPATs play a strategic role in ensuring the legality of land documents. When a PPAT's name is implicated in a legal case, the negative impact is difficult to avoid. This has led many PPATs to be extremely cautious when accepting requests for deed creation.

Within the framework of government administration, state losses resulting from differences in transaction values cannot be considered trivial. Tax revenues are reduced, impacting the planning and implementation of development programs. Regional governments that rely on PPH (Income Tax) from the Land and Building Tax Revenue Agency (BPHTB) lose one of their revenue sources. This loss is exacerbated when the practice is carried out extensively by multiple parties within the same region. The impact is not only on tax revenue figures but also on the region's ability to meet community needs. Thus, differences in transaction values have a systemic effect that weakens state and regional finances.

Another issue that arises is the potential for discrepancies between transaction data and records held by financial institutions or banks. If payments are made via bank transfer, account transfer data may show a different value than that stated in the Deed of Sale and Purchase. This discrepancy can be strong evidence of transaction value manipulation during an audit by tax authorities. On the other hand, if transactions are made in cash, proving the value is more difficult and requires credible witness testimony. This suggests that payment method also influences the likelihood of discrepancies in transaction values being uncovered. Therefore, a cashless payment system can actually help prevent this practice.

The phenomenon of transaction value manipulation in Deed of Sale and Purchase (AJB) cannot be separated from the fundamental question of the extent to which the law is able to protect public rights and interests. In practice, transaction value manipulation not only reduces state revenue but also weakens the guarantee of protection for citizens who comply with taxes. The theory of legal protection then emphasizes that public officials, such as Land Deed Officials (PPAT), must ensure that the deeds they draw up are in accordance with material truth, so as not to become instruments that actually harm the state and society. Thus, the application of this theory provides a normative basis that the law must be actively present and responsive to manipulative practices that undermine the integrity of the system.

3.2. Legal Responsibility for PPAT for the Difference in Transaction Value and the Actual Price in the AJB

The legal responsibility of Land Deed Officials (PPAT) in cases of discrepancies between the transaction value and the actual price in a Deed of Sale and Purchase (AJB) is a crucial issue due to their position as public officials authorized to issue authentic deeds. Legally, PPATs are responsible for ensuring that each deed they create meets the formal and material requirements of statutory regulations. However, in practice, PPATs often simply record the information provided by the parties without verifying the accuracy of the price. This situation has given rise to debate regarding the extent to which PPATs can be held accountable if the value in the deed differs from the actual price.

Normatively, laws and regulations impose an obligation on Land Deed Officials (PPAT) to ensure that the deeds they draft reflect the actual situation. However, this provision is often interpreted narrowly, limited to ensuring completeness of documents and format compliance. In the case of discrepancies in transaction values, PPATs may argue that they simply recorded the figures as stated by the parties, without having any obligation to verify their accuracy. This view opens up legal debate, as some argue that PPATs should actively verify the discrepancy. If the PPAT is aware of the discrepancy in value but still includes it in the deed, this could be considered negligence or omission. This negligence could potentially give rise to legal liability for the PPAT.

In the context of criminal law, a Land Deed Official (PPAT) can be held accountable if proven to have participated in or assisted in the commission of a tax crime or document falsification. This can occur if there is evidence that the PPAT knew the true value but still recorded a different figure in the deed. Although the PPAT serves as a recorder of information, active or passive involvement in facilitating the violation can fulfill the elements of the crime of accomplice. Determining the element of intent is key to proving the PPAT's criminal liability.

On the other hand, civil liability of a PPAT may arise if one of the parties to the transaction suffers a loss due to a discrepancy in the transaction value. For example, if a buyer is later charged for underpayment of tax due to an undervalued transaction value, they can sue the PPAT for damages on the grounds of negligence. Such a lawsuit will test the extent to which the PPAT has performed their duties according to professional standards. In this case, the evidence will depend on the extent to which the PPAT is deemed obligated to verify the accuracy of the transaction value. This debate highlights a legal gap that requires regulatory clarity. Therefore, reformulating the PPAT's role in verifying transaction values is relevant.

Administratively, PPATs can also be subject to sanctions by the PPAT Supervisory Board if they are deemed to have violated the code of ethics or job requirements. Administrative sanctions can include reprimands, warnings, temporary suspensions, or even revocation of their practice permits. The Supervisory Board has the authority to assess whether the PPAT's actions in recording different values violate professional standards. "The price in the Deed of Sale and Purchase (AJB) is from him, I don't have the authority to lower or increase it," indicates that the PPAT does not feel he has a role in determining the value. However, this view does not necessarily absolve him of administrative responsibility. Administrative sanctions are often imposed as a form of fostering and upholding professional integrity. In practice, the PPAT's limited authority is often used as a defense when there are differences in transaction values in the Deed of Sale and Purchase. PPATs generally emphasize that they do not have the authority to assess or determine the actual price of the land, but only to record data submitted by the parties. This creates a dilemma for PPATs when these differences in value are later challenged legally. On the one hand, PPATs must uphold the principles of document accuracy and integrity; on the other hand, they cannot force the parties to submit the actual price.

The PPAT's liability is also influenced by evidence that he or she knew about the discrepancy in value but still proceeded with the deed. If the PPAT has clear knowledge or indications that the actual price and the price stated in the deed are different, then the PPAT's silence can be interpreted as negligence. In legal doctrine, ignoring a known violation can constitute negligence or even indirect intent. However, proving such knowledge is not always easy, as there must be communication or documentary evidence demonstrating the PPAT's awareness of the discrepancy. PPATs often adhere to the principle of formality, namely recording based on statements from the parties. This principle differentiates between potential administrative, civil, and criminal liability.

The theory of legal certainty demands that existing rules be enforced consistently so that the public can predict the legal consequences of each action. If manipulative practices are allowed to persist, the public will doubt legal certainty because the law seems to apply only to certain parties. This creates uncertainty in planning and undermines trust in the legal system.

Legal certainty also emphasizes the importance of data consistency between Land Offices (PPAT), the National Land Agency (BPN), and the Regional Revenue Agency (Bapenda). When data differs, law enforcement becomes ineffective because there is no clear basis for enforcement. This administrative fragmentation opens up opportunities for manipulation, further weakening legal certainty. Therefore, system integration through a digital platform connecting the three agencies is crucial to ensure information clarity. With an integrated system, the public can no

longer exploit data discrepancies to evade obligations. This demonstrates that legal certainty requires strong institutional and administrative support.

From a legal perspective, an authentic deed prepared by a Land Deed Official (PPAT) should have perfect evidentiary force. However, if the transaction value contained therein is manipulated, the deed loses its certainty as a reliable legal instrument. This creates uncertainty for both the parties to the transaction and the state, as the party entitled to tax revenue. Therefore, the PPAT must be held accountable not only formally but also materially for the contents of the deed. Legal certainty in this case will ensure that the authentic deed truly reflects the facts.

In practice, the Regional Revenue Agency (Bapenda) acknowledges that to date, there are no direct criminal sanctions imposed for discrepancies in transaction values stated in the Deed of Sale and Purchase (AJB). However, the absence of criminal sanctions does not exempt PPATs from liability. If it is proven that PPATs intentionally entered inaccurate values to benefit certain parties, they can still be prosecuted under general criminal provisions, such as Articles 55 and 56 of the Criminal Code concerning participation in or assistance in tax crimes. Therefore, PPATs need to prioritize professional integrity in carrying out their duties. This step not only protects the state but also maintains the reputation of the PPAT profession.

In the event of tax underpayments due to differences in transaction values, administrative sanctions such as fines or underpayment of tax will still be imposed. The Bapenda (Regional Revenue Agency)'s confirmation process with the parties in the event of discrepancies should serve as a reference for Land Deed Officials (PPATs) to adopt similar procedures. PPATs can establish a written mechanism to request official clarification from the seller and buyer if their stated prices differ significantly from the general market price. This step will help PPATs demonstrate that they acted prudently and not passively in receiving price information. Legally, documenting this clarification can serve as evidence in the event of a future dispute or legal investigation. This way, PPATs can limit their risk of liability. Bapenda's statement indicates that objective mechanisms exist to assess the reasonableness of prices, even though PPATs lack field verification authority. By adopting the principle of prudence, clarification procedures, and integrity in their work, PPATs can avoid potential administrative and criminal sanctions. From a legal protection theory perspective, this is crucial to protect PPATs from the risk of disproportionate criminalization. At the same time, the principle of distributive justice requires PPATs to help ensure that the state is not harmed by manipulation of transaction values. Therefore, the legal responsibility of PPAT must be seen as an integral part of the tax and land law enforcement system.

4. Conclusion

The difference between the transaction value in the land sale and purchase deed and the actual price has legal consequences in the tax and criminal fields. From a tax perspective, this practice implies a reduction in the obligation to pay BPHTB (land acquisition and acquisition tax) and Income Tax (PPh), thus it can be categorized as a form of tax evasion under the provisions of the KUP Law and Article 39 of the Tax Law. From a general criminal perspective, the involvement of other parties, such as PPAT (land clearing officials), can give rise to legal liability under Articles 55 and 56 of the Criminal Code, although the imposition of criminal sanctions is rare. The practice of manipulating transaction values also contradicts the principle of distributive justice because it harms compliant taxpayers and disrupts the country's fiscal balance, as well as has the potential to undermine the integrity of the land and tax legal systems. The government needs to strengthen the transaction value verification system by integrating data between the National Land Agency (BPN), Bapenda (Regional Revenue Agency), and the Directorate General of Taxes in a single, integrated digital platform that allows for automatic cross-checking. Furthermore, it is necessary to conduct more intensive public outreach regarding the legal risks, both administrative and criminal, of land price manipulation, and to improve law enforcement with a balanced approach between prevention and action to create sustainable legal compliance. Land Deed Officials (PPATs) have a responsibility not only formally and administratively, but also morally and professionally to ensure the accuracy of the data contained in the Deed of Sale and Purchase (AJB). Based on the provisions of the PPAT position, this official is required to verify the formal and material accuracy of documents and to clarify any transaction values that are unreasonable compared to the NJOP or market price. Negligence or ignoring differences in transaction values can result in administrative sanctions, dismissal, and even criminal penalties if proven intentional. Therefore, the responsibility of PPATs is crucial in preventing land price manipulation practices that harm state finances while maintaining the credibility of the profession. PPATs need to improve their integrity and professionalism through regular training on tax law, criminal law, and developments in the property market. PPAT professional organizations also need to strengthen their codes of ethics and internal oversight by imposing strict sanctions for violations. Furthermore, consistent application of due diligence principles and active cooperation with tax authorities are crucial to minimizing the risk of price manipulation. The government can also provide incentives for PPATs who proactively report indications of violations as a form of appreciation for their contribution to safeguarding the state's fiscal interests.

5. References

Journals:

Limbong, T. M., Dewi, A. T., & Sitompul, R. M., (2022), "Tanggung Jawab Ppat Atas Bea Perolehan Hak Atas Tanah Dan Bangunan (BPHTB) Pada Akta Jual Beli Tanah Dan Bangunan Di Kota Medan", *Law Jurnal*, Vol. 3 no. 1

Books:

- Putri, Y. (2023), "Bea Perolehan Hak Atas Tanah Dan Bangunan (Bphtb) Terhadap Akta Jual Beli Dalam Peraturan Perundang Undangan" (Doctoral Dissertation, Magister Kenotariatan).
- Soenarto, M. I. (2023), Keabsahan Akta Jual Beli Berdasarkan Putusan Pengadilan Yang Menyatakan Pejabat Pembuat Akta Tanah Dan Penjual Melakukan Perbuatan Melawan Hukum (Studi Putusan Pengadilan Negeri Lamongan Nomor 41/Pdt. G/2019/PN. Lmg), (Doctoral dissertation, Universitas Narotama)

Internet:

- Al Aufia, A. N. (2024), "Kepastian Hukum Akta Jual Beli yang dibuat Oleh Pejabat Pembuat Akta Tanah Terkait Nominal Harga yang Tidak Sebenarnya di Kabupaten Bogor" https://dspace.uii.ac.id/bitstream/handle/123456789/50177/22921005.pd f.sequence=1&isAllowed=y (Doctoral dissertation, Universitas Islam Indonesia), accessed on July 2, 2025 at 09.00
- Winahyu, F., (2022), "Peran Pejabat Pembuat Akta Tanah Dalam Proses Pendaftaran Peralihan Hak Atas Tanah Dan Pembayaran Pajak Bphtb Atas Jual Beli Tanah Dan Bangunan Di Kabupaten Pati", Master's thesis, Universitas Islam Sultan Agung Indonesia https://www.proquest.com/openview/382e6325bc978a562814234c9e2eb9b8/1?pqorigsite=gscholar&cbl=2026366&diss=y, accessed on July 3, 2025, at 07.00.