Abstract
In a cause-and-effect type sentence, the choice of lexis and grammar is crucial. This paper focuses on five nearly synonymous Indonesian lemmas indicating effect, which are: <hasil, efek, konsekuensi, dampak and akibat>. In Kamus Besar Bahasa Indonesia (the online version of the Indonesian reference dictionary used in this study), these lemmas are described without any feature of semantic prosody. Does this mean that the prosody of these words is not important? My study has shown otherwise. I, here, have extracted cause-and-effect sentences from the PAN Localization Corpus (the reference corpus employed in this study). The collocates and grammatical constructions show that the semantic prosody of hasil is flexible. However, discussion of my finding shows that the prosody for the rest of the lemmas tends to be negative. This can be seen from statistics showing lexical preferences for words with negative associations and negative grammatical constructions, where the effects are negative or unexpected. This holds true for the four text types in the corpus (economy, sport, science and international affairs). For this reason, I recommend that the KBBI development team should incorporate this feature in the forthcoming versions of the dictionary.

Keywords: corpus, concordance, collocation, words of effect, semantic prosody

The focus of my study here is on words of effect (as in 'cause and effect') in the Indonesian language. The data were obtained from the PAN Localization Project Corpus (Adriani & Hamam, 2008). Some examples from the corpus data (1), (2) and (3) are shown as follows (effect is underlined in each case):

(1) keterbelakangan diakibatkan oleh sifat-sifat tradisional
   "backwardness' is caused by traditional characteristics"

(2) perubahan-perubahan yang diakibatkan oleh mutasi
   "the changes affected by mutations"

(3) kematiannya diakibatkan oleh kegiatan mata-mata bagi Amerika Serikat
   "death' was a result of spying for Americans"

The stem akibat 'effect' is derived by the \{di-kan\} confix, resulting in the verbal form diakibatkan 'be caused by something'. Notice how keterbelakangan 'backwardness' in line 1 and kematiyan 'death' in line 3 have the feature of negative meaning. The reduplicated form perubahan-perubahan (the plural form of 'change') in (2) is actually neutral in this isolated co-text, but the expanded context suggests that it is also negative in meaning. See (4):

(4) Perubahan-perubahan yang diakibatkan oleh mutasi hanya akan serupa dengan apa yang dialami penduduk Hiroshima, Nagasaki, dan Chernobyl.
   'The changes affected by mutations' can only be like those experienced by people in Hiroshima, Nagasaki, and Chernobyl.'

'Changes' in (2) refers to the extreme side effect(s) of nuclear radiation. This effect is neither something positive in meaning, nor expected. Those three samples have illustrated that the word of effect diakibatkan licenses the presence of words or constructions that have the feature of negative association. The term that Louw (1993) has proposed for this phenomenon is 'semantic prosody': a word may attract collocates that have a particular semantic property (usually characterized by negative or positive) and be determined either by lexis or grammar. I will review this concept later. As for now, it is important to understand that besides diakibatkan, other negative semantic prosody suspects are also present in Indonesian.

In this paper, I investigate five lemmas of words of effect that are near-synonyms: <hasil, akibat, konsekuensi, dampak and efek>. The aims of this study are to understand 1) how the words of effect are used in the corpus, 2) the semantic prosody of words of effect via its collocates or grammatical construction, 3) how native Indonesians use the words of effect in sentence context.

Discussion of the findings in this paper is presented by the combination of statistics, concordance, collocates and qualitative description. I also conducted a production test (with Indonesian native speakers as the respondents). The cross check between the production test and the findings from the corpus is a crucial importance before concluding this study. Before discussing this further, there are some previous studies about semantic prosodies that I want to review.

Prosody is a term that originates from the field of phonetics and phonology, but it is also used in the field of corpus linguistics these days. While prosody in phonology refers to suprasegmental features such as stress, rhythm and intonation (Ladefoged & Johnson,
prosody in corpus linguistics refers to the tendency of a word to positive or negative polarity (McEnery & Hardie, 2012). Consistent series of collocates to this kind of word are clues to determine its prosody. The attributive 'semantic' is often attached to 'prosody' as 1) it relies heavily on sentence context, 2) the co-selection is strongly related to the semantic properties of the word and its collocates.

Through a series of studies, Sinclair (2003) concluded that verbs such as 'to cause', 'to budge' and 'to happen' have negative semantic prosody. They tend to co-select words with negative features, such as 'failure', 'burden', or 'expensive'. The negativity can also be expressed by negation, such as 'not successful', 'has never managed to', or 'cannot survive'. Sinclair suggested that semantic prosody is included in headword description of Standard English dictionaries.

Hunston (2007) revisited the concept of semantic prosody, and she suggested that the prosody might be bound to register. Her finding is also important, as register is also another crucial instrumentation of meaning. One of her criticisms to Sinclair's analysis is about the semantic prosody of 'to cause'. She believed that when it refers to [-HUMAN] features, the prosody is not necessarily negative.

Whitsitt (2005) also criticized this concept a bit earlier than Hunston. Although many loopholes are found in his criticisms (McEnery & Hardie, 2012), one of his findings seems important. He believed that semantic prosody might change over time. This might hold true as diachronic linguistics studies have validated that meaning is always negotiated, and after some time, with social convention, the meaning itself may shift or even change.

The findings of Sinclair, Whitsitt and Hunston are instrumental to my study. The data of the corpus I use here are from four different sections of Indonesian newspapers: economy, international, science and sport. It is interesting to confirm whether the text type is instrumental in determining the prosody as Hunston (2007) suggested. As for Whitsitt's finding (2005) about diachronic change, I need to state that my focus here is on words of effect category might also be included in the result of the retrieval. As the focus of this paper is on the words of effect, then words that fall beyond this classification must be removed. Words such as penghasilan 'income', keberhasilan 'success' or efektif 'effective' are removed as they do not fall to this category.

To investigate the semantic prosody of the words of effect, I applied the following procedure. First, I extracted concordances for each derivational token. These concordances are important as they provide co-text, where the token is used. The part of co-text that is also essential in determining the semantic prosody, is the collocate(s) of the words of effects. I then assigned prosody for each token, particularly evaluative words, and presented them by cross tabulation. This datum was then statistically measured to identify any prosodic tendency. Another statistical measure was performed to investigate the distribution of words of effect across text types. Here, I used AntConc (Anthony, 2006) to obtain the distribution plot and convert the data, also into the cross tabulation where text types and words of effect are the variables. The aim is to show to what extent text types are significant to the preference of words of effect.

The last stage of this research was a production test. Ten Indonesian native speakers were randomly selected to fill out an online questionnaire, which I had devised. In this questionnaire, they were asked to compose one sentence for each derivational form. I then investigated the semantic prosodies and crosschecked them with the prosodies I have previously assigned on the corpus data.

One important thing that I need to declare before I begin presenting my data is about the translation. We will frequently encounter examples in Indonesian followed by the translation in English. The idiomatic translation of each datum is obtained also from the corpus, as the corpus is already aligned to its English translation (it is a parallel corpus).

METHOD
Raw data in this paper were obtained by the automatic retrieval of the derivations of five lemmas in the corpus: <hasil, efek, konsekuensi, dampak and akihabat>. The retrieval was performed by a corpus processing tool, Unitex (Paumier, 2008). As the lexical resource for Indonesian was not yet available, I used morphological stem-based retrieval. For instance, the retrieval of stem<<hasil>> resulted on the concordance lines with the following keywords (derivations) in contexts: menghasilkan, hasilnya, dihasilkan and etc. They are derived by means of affix(es), such as, me-kan conffix (menghasilkan 'to result on sth'), ber- prefix (berdampak 'to have impact'), -nya suffix (konsekuensinya 'the consequence'), and etc. Of the retrieval of these five stems, there are 39 derivations that contain strings, where the surface forms are exactly the same as the lemma.

One feature of derivation is that it may change the meaning. It means some words that do not fall to words of effect category might also be included in the result of the retrieval. As the focus of this paper is on the words of effect, then words that fall beyond this classification must be removed. Words such as penghasilan 'income', keberhasilan 'success' or efektif 'effective' are removed as they do not fall to this category.

RESULTS AND DISCUSSION
As I have commented previously, the raw data have to go through the filtering before they are analyzed further. Several words that are not under the category of words of effect are removed. The result of the filtering is summarized in Tables 1 and 2.

Table 1 shows the result of the derivation without the involvement of any affix. Of those five words of effect
Table 1. Non-affix derivations

| Token  | Alignment Sample                                                                 |
|--------|----------------------------------------------------------------------------------|
| n.hasil | Saat ini kami masih menunggu hasil penyelidikan dan pengecekan ulang tata batas areal yang dilakukan Departemen Kehutanan. Now we are waiting for the result of the governmental investigation and the rechecking on the forest borders. |
| n.konsekuensi | Anggota senior partai Demokrat di Kongres, Rabu, mencela keputusan Pentagon untuk memperpanjang penggelaran tentara di Irak sebagai konsekuensi kegagalan kebijakan Gedung Putih. Top Democrats in Congress denounced Wednesday the Pentagon's decision to extend troop deployments in Iraq as the consequence of White House policy failures. |
| n.akibat | kami mengharapkan kondisi pasar keuangan global kembali pulih sehingga turut memberikan dampak positif terhadap pasar keuangan domestik, katanya. we hope global financial market conditions would recover and have a positive impact on the domestic market, he said. |
| n.dampak | Jeruk yang dihasilkan sangat berkhasiat bagi tubuh, sangat lezat dan harum saat dimakan. The result it yields is extremely useful for the human body, extremely tasty and fragrant when consumed by humans. |
| n.impact | konsekuensinya pemberdayaan dan pengembangan LKM menjadi salah satu syarat dasar. Consequently, empowerment and development of MFI becomes one of basic requirement. |
| n+def.dampaknya | Menurunnya kerapatan pigmen macular berakibat pada menurunnya kemampuan retina untuk menyaring cahaya yang masuk. Reduction of macular pigment density impacts to decreasing retina ability to filter entering light. |
| v+tr.berdampak | mengingkat itu berakibat pada tingkat bunga, nilai tukar dan variable lain, katanya. it could affect the interest rate, currency exchange rate and other variables. |
| v+tr.berakibat | Menurunnya kerapatan pigmen macular berakibat pada menurunnya kemampuan retina untuk menyaring cahaya yang masuk. Reduction of macular pigment density impacts to decreasing retina ability to filter entering light. |
| v+intr.berefek | Polusi aerosol dari Asia Timur berefek besar bagi belahan dunia ini karena adanya transportasi jarak jauh. Aerosol pollution from Asia has a huge impact on this part of the world because it transports over long distances. |

Table 2. Derivations by affix(es)

| Token | Alignment Sample                                                                 |
|-------|----------------------------------------------------------------------------------|
| v+tr.menghasilkan | Secara bersama, KPC dan Arutmin menghasilkan lebih dari 53 Mt batubara pada tahun 2006 Jointly KPC and Arutmin produced more than 53 metric tons of coal in 2006 |
| v+pass.dihasilkan | Jeruk yang dihasilkannya sangat berkhasiat bagi tubuh, sangat lezat dan harum saat dimakan. The result it yields is extremely useful for the human body, extremely tasty and fragrant when consumed by humans. |
| v.dihasilkannya | ‘be resulted by’ the (+agent) alhasil, ukuran populasi … dibatasi oleh faktor- faktor lingkungan ‘as a result’ |
| conj.alhasil | ‘as a result’ alhasil, ukuran populasi … dibatasi oleh faktor-faktor lingkungan. |
| n+def.konsekuensinya | Konsekuensinya pemberdayaan dan pengembangan LKM menjadi salah satu syarat dasar. Consequently, empowerment and development of MFI becomes one of basic requirement. |
| v+tr.mengakibatkan | Hal ini menurut dia karena krisis keuangan telah mengakibatkan beban biaya fiskal bagi pemerintah. They had done so considering that past crises had caused their governments to bear huge fiscal cost burdens. |
| v+pass.diakibatkan | ‘be caused by sth’ Menurunnya kerapatan pigmen macular berakibat pada menurunnya kemampuan retina untuk menyaring cahaya yang masuk. Reduction of macular pigment density impacts to decreasing retina ability to filter entering light. |
| n+def.akibatnya | ‘the result’ Menurunnya kerapatan pigmen macular berakibat pada menurunnya kemampuan retina untuk menyaring cahaya yang masuk. Reduction of macular pigment density impacts to decreasing retina ability to filter entering light. |
| v+tr.berakibat | ‘to impact on sth’ Menurunnya kerapatan pigmen macular berakibat pada menurunnya kemampuan retina untuk menyaring cahaya yang masuk. Reduction of macular pigment density impacts to decreasing retina ability to filter entering light. |
| v+tr.berdampak | ‘to have impact on sth/to affect’ Menurunnya kerapatan pigmen macular berakibat pada menurunnya kemampuan retina untuk menyaring cahaya yang masuk. Reduction of macular pigment density impacts to decreasing retina ability to filter entering light. |
| n+def.dampaknya | ‘the impact’ Menurunnya kerapatan pigmen macular berakibat pada menurunnya kemampuan retina untuk menyaring cahaya yang masuk. Reduction of macular pigment density impacts to decreasing retina ability to filter entering light. |
| n+def.efeknya | ‘the effect’ Efeknya mungkin baru terlihat puluhan tahun mendatang. The effect might take place in several decades to come. |
| n+intr.berefek | ‘to affect on sth’ Polusi aerosol dari Asia Timur berefek besar bagi belahan dunia ini karena adanya transportasi jarak jauh. Aerosol pollution from Asia has a huge impact on this part of the world because it transports over long distances. |
on table 1, you see some of them are similar to English, such as *efek* 'effect' and *konsekuensi* 'consequence'. Badadu (2009) believed that these two words are loans from Latin. Jones (2007) on the other hand believed that they are Dutch loan. Although they disagreed on the origin of *efek* and *konsekuensi*, they both agreed that *hasil* and *akibat* are Arabic loans. However, neither of these scholars mentioned anything about *dampak*. I believe that this is the only Indonesian original word, or at least Malay origin. The retrieval of *dampak* on Malay Concordance Project Corpus results on six occurrences of *dampak* including *berdampak*, *berdampaklah* and *terdampak* (none of the last two words occurred in the corpus used in this paper) from texts between 1843 and 1940. Unfortunately, I found no previous works that relate to the words of effect in the donor language (English or Arabic). Such studies would be useful as the Indonesian prosody might be a form of interference of the donor language prosody.

The reference can be located on the left or right hand side of the word of effect. However, sometimes, we need to observe the extended co-text as well. Consider examples (5), (6) and (7):

(5) *Berkaitan dia bawah ini adalah dampak inflasi menurut para ekonom.*

'The followings are *impacts* of inflation according to economists.'

(6) *harga logam timah dunia cenderung menguat sebagai dampak dilakukannya upaya penegakan hukun.*

'World tin prices had strengthened since the fourth quarter of 2006 as a result of law enforcement'

(7) *inflasi yang rendah juga membawa dampak penerimaan tax receipts.*

'Low inflation had also caused a decline in value-added tax receipts.'

In example (5), expanded context is required as *inflasi* is not the impact. The reference impact is cataphoric (available on the extended context), as shown by the phrase *di bawah ini* 'the followings'. In example (6), *dampak* is predicative, and subject *harga logam timah dunia cenderung meningkat* 'the strengthening of world tin prices' is the effect. In example (7), the effect is on the right hand side *penerimaan tax receipts*. Now, see table 2 that shows the derivations formed by *affix(es)* and the location of the effects in my description.

Table 2 shows us some derivations that take *affix(es)*. Some affixed words of the same lemma are put under the same box, such as *meN-kan* and *di-kan* (mengakibatkan, diakibatkan, menghasilkan, dihasilkan). Prefix *di-* indicates passive voice, while *meN-* indicates active voice. The stem also takes suffix *–kan*. The presence of this suffix means that the verb is transitive and the presence of an object (in this case the effect) is necessary. See the effects (underlined) in (8) and (9):

(8) *krisis keuangan telah mengakibatkan beban biaya.*

*Fiscal cost burdens.*

past crises had caused their governments to bear huge fiscal cost burdens.

(9) *zat ini hanya dihasilkan di tempat yang terluka.*

This *substance* is produced only at the location of the wound.

The effect of active voice (*meN-*) is located on the right hand side. See *beban* 'burden' in (8). Here huge fiscal cost is the effect of past crises. And, the object of passive voice is situated on the left hand side as shown by *zat* 'substance'. The presence of this substance is the effect of the wound.

Another marker of active voice is prefix *beR-* as in *berdampak* or *berakibat*. The effect is usually located on the right hand side. However, often the evaluative words of the effect are used without the textual presence of the head. See (10):

(10) *kejadian yang dapat berakibat fatal.*

'An incident that may cause something lethal'.

The Indonesian version does not mention anything about the reference. In the English translation, 'something' is inserted to make the reference explicit. However, the presence of the Indonesian equivalence of 'something' is not important for Indonesian speakers, as they are quite sure that the effect does exist and is lethal. This might be the effect of the word formation as *beR*-prefix attaches to noun stem which means 'to have N'. This phenomenon also happens for some words, where the grammar class is marked by *+def* (definite) feature. In example (11), the noun reference is omitted, and only the evaluation '10 times worse' is present:

(11) *kalau masyarakat internasional gagal melakukan itu, konsekuensinya akan 10 kali lebih buruk.*

if the international community failed to do that, the consequences would be 10 times worse.

Here, the presence of noun is unnecessary as *konsekuensi* itself is the noun, and the evaluative phrase *10 kali lebih buruk* '10 times worse' is its modifier.

Up to now, we have discussed how to identify the effect reference from the structural point of view. When we did so in the previous discussion, we know that some of the effect reference or the evaluative word (usually adjective) or phrase may bring the impression that the effect is either something expected, or unexpected depending on the positive or negative evaluation that it conceives.

**Semantic prosody**

I assign prosodies to the extracted data in the corpus by three types: positive, negative and neutral. Positive prosody means the effect is positive or comes as expected, while negative prosody means that the result is negative or unexpected. Neutral indicates that the prosody is neither positive nor negative. The decision of assigning prosody comes after observing collocates of the words of effect. Consider example 12 to 14:
example (12), in example (13), the word 'rupiah to strengthen' is positive in prosody. Unlike a result declaration of organic systems. The collocate, motion, is the effect of the verb (14) –kan. This collocate makes the prosody negative in (14).

Collocates here play an important role in determining polarity. Often, the list of the collocates of a word of effect may point out to what polarity the prosody leads. Consider table 3, which is the list of 10 evaluative collocates of the noun konsekuensi. The list is obtained by T-score (performed by AntConc):

| Positive Collocate | Negative Collocate |
|--------------------|--------------------|
| baik ‘good’ | mengecewakan ‘disappointing’ |
| menarik ‘interesting’ | terpuruk ‘went down’ |
| positif ‘positive’ | gembira ‘happy’ |
| laba ‘(bank) interest’ | pias ‘satisfied’ |
| sesuai ‘proper’ | |

Table 3 shows that the collocates of hasil are mostly positive. Only two collocates are negatives, and the rest eight collocates give positive evaluation. Although the tendency of the prosody here is positive, but I may say that the prosody of the stem hasil is flexible. This property is assigned to words of effect where they may co-select words with either positive or negative evaluation.

Besides flexible, another property of the prosody is 'absolute'. 'Absolute' is the property of words of effect, where all the collocates suggest either positive or negative evaluation. Consider concordance 1:

Concordance 1. konsekuensi

1 'because you understand that the' konsekuensi dari kegagalan akan menyedihkan
2 mengalami kenaikan, yang membawa konsekuensi terhadap beban suka bunga
3 tapi saya percaya konsekuensi bagi keamanan Amerika akan menghancurkan
4 Hanya konsekuensi bagi kait kita
5 'Only tragic' konsekuensi bagi kait kita
6 ekonomi rendah karena memang konsekuensi dari kenaikan harga minyak
7 'because we understand the' konsekuensi kegagalan. Kalau koalisi kami mundur
8 tetap kita lakukan dengan konsekuensi biaya yang lebih mahal
9 'We will continue to' konsekuensi-konsekuensi negatif atas setiap aksi
10 mencatat kemungkinan konsekuensi-konsekuensi dari kemungkinan
noted several possible negative
'Christian anti-war charity.' The consequences of any possible...

The prosody of konsekuensi is negative for all, as shown by 10 concordance lines shown by concordance 1. See line one menyedihkan 'sad' and kegagalan 'failure' (also repeated in line 7), beban 'burden' in line 3, menghancurkan 'to destroy' in line 3, tragis 'tragic' in line 4, buruk 'bad' in line 6, mahal 'expensive' in line 8, and negatif 'negative' in line 9. We find kenaikan 'raise' in line
5. This word is interesting as it may be positive or negative. But here, it configures itself as the modifier of harganya minyak 'oil price'. Where the raise of salary is expected, the raise of oil price is unexpected, as it may trigger the price of other items to rise as well. It is therefore negative. To understand why konsekuensi-konsekuensi 'the plural form of consequence' is negative in line 10, we need to observe the expanded context. See example (15):

(15) Konsekuensi-konsekuensi dari kemungkinan serangan militer mendatang sama sekali kontra produktif serta sangat berbahaya.

The consequences of any possible future military action could be wholly counter-productive as well as highly dangerous.

The cause of effect in example (15) is serangan militer 'military action'. Here, the meaning is already negative that almost everyone believes that peaceful resolution is always prioritized and military action is one last option to consider. However, what determines the negative prosody of konsekuensi-konsekuensi is the evaluation marked by the predicate compound kontra produktif 'counter-productive' and adjective berbahaya 'dangerous'. The adjective is even modified by an intensifier sangat 'highly' to indicate that the danger behind the military attack is serious.

So far we have come to three prosodies; positive, negative and neutral. Besides the polarities, another property of the prosody of words of effect here is 'flexible' or 'absolute'. The data shows that the prosody of konsekuensi is negative for all data. It means that it is konsekuensi that co-selects its collocates and not the other way round. Cognitively, Indonesian speakers would use words or constructions that lead to negative effect as the collocates of konsekuensi its derivates.

Unlike 'absolute', words that fall to the category of 'flexible' are not definite in prosody. The collocates determine whether they are positive or negative (or neutral, as I have commented previously). However, the statistics showed that the term 'flexible' must be elaborated somehow, as the tendency either may extremely goes toward one side, positive or negative. Table 3 has shown that hasil can be used when the result is negative or positive. But the data indicate that hasil has the extreme tendency towards positive prosody. On the other side, dampak seems to have an extreme tendency to negative prosody:

In concordance 2, the prosody of dampak 'impact' from lines 1-7 is negative. Only three are positive in prosody (they are marked by attributive adjective positif 'positive'). I believe that unless they are marked by positive evaluation word, the prosody of dampak is negative.

As I have commented previously, collocates are not the only clue in determining the prosody. Consider 16, where the evaluation word tidak 'not' stands as the collocate. Here, the collocate seems to be negative, but the prosody is actually positive as the grammatical construction in the co-text shows that it is negated by tidak 'not'. The whole phrase tidak separah 'not as bad as' indicates that the impact of the raise of oil price is not as bad as the previous one.

(16) dampak kenaikan BBM tahun ini tidak separah tahun 2005

The impact of fuel oil price hikes would not be as bad as those in 2005.'
that only appears once in the corpus:

(17) alhasil, ukuran populasi ... di batasi oleh faktor-faktor lingkungan
“as a result, the population is limited by environmental factors”

Here, on one time occurrence, the prosody is negative. I cannot decide now that the prosody is extremely or absolutely negative as it only occurs once in the corpus. However, my recent search by using Google search has retrieved sentences where the prosody is all negative. Here are the top three sentences that I obtained:

(18) Alhasil, pemerintah masih memberikan subsidi sebesar Rp 1.500 per liter.
“As a result, the government still has to subsidize 1.500 per liter”

(19) Alhasil, Juventus hanya mampu meraih satu poin dalam laga ini
“As a result, Juventus only managed to get one point from this match”

The word alhasil, is always sentence initial, followed by a comma and the effect (the cause is on the previous sentence). This pattern (alhasil + , + EFFECT) applies for the data, either by the Google search or the corpus. We can say here that alhasil introduces a negative impact. The context in all of the sample sentences I obtained suggests that the prosody is negative. However, since they are not the part of the corpus, I decide to exclude the sentences from this research and study this word in more details for future research. As for now, the details that we have previously discussed are summarized by table 4 (alhasil is excluded):

Table 4. Prosodic categorization of words of effect

| Token                                | Prosody | absolute | Flexible |
|--------------------------------------|---------|----------|----------|
|                                      | [+ ]    | [-]      | Extremely | Extremely |
| hasil ‘result’                       | ✓       | ✓        | ✓        | ✓         |
| menghasilkan ‘to result’             | ✓       | ✓        |          | ✓         |
| dihasilkan ‘be resulted’             | ✓       | ✓        |          | ✓         |
| dihasilkannya ‘the resulted’         | ✓       | ✓        |          | ✓         |
| konsekuensi ‘consequence’            | x       | ✓        |          | ✓         |
| konsekuensinya ‘the consequence’     | x       | ✓        |          | ✓         |
| akibat ‘cause’                       | ✓       | ✓        |          | x         |
| mengakibatkan ‘to cause’             | ✓       | ✓        |          | x         |
| diakibatkan ‘be caused’              | ✓       | ✓        |          | x         |
| akibatnya ‘the impact’               | ✓       | ✓        |          | x         |
| berakibat ‘to have impact’           | ✓       | ✓        |          | x         |
| dampak ‘impact’                      | ✓       | ✓        |          | x         |
| berdampak ‘to have impact’           | ✓       | ✓        |          | x         |
| dampaknya ‘the impact’               | ✓       | ✓        |          | x         |
| efek ‘effect’                        | ✓       | ✓        |          | x         |
| efeknya ‘the effect’                 | ✓       | ✓        |          | x         |
| berefek ‘to have effect’             | ✓       | ✓        |          | x         |

from this match”

(20) Alhasil, Jakarta harus puas berada di posisi ke-34 dari 40 kota yang dinilai
“As a result, Jakarta must be satisfied by just being the 34th over 40 assessed cities”

The result in example 21 is future in aspect; it is not yet known whether it is negative or positive or neutral.

The prosody of the rest of the words is both negative and positive, which means they are flexible. But there is a tendency toward positive or negative. Words from lemma akibat, dampak and efek are extremely negative. The comparison may reach 70% (negative) – 30% (positive). The frequency of the occurrence of these words in positive prosody is scarce in the corpus. Interestingly, none of the words of effect has tendency towards positive prosody.

The words of effect that are derived from lemma hasil are more positive in prosody, although the gap is relatively small as compared to others. The comparison is 65% (positive) and 35% (negative). Besides used for effects under 'neutral' (neither positive nor negative) category, these words of effect are mostly used for the effect that is not yet obtained. Consider example 21.
Table 5. Distribution of words of effects across text types

| Token          | Text Types | Economy | International | Science | Sport |
|----------------|------------|---------|---------------|---------|-------|
| Hasil          | 'result'   | 65      | 63            | 112     | 117   |
| berhasil       | 'successful' | 62      | 40            | 66      | 70    |
| menghasilkan   | 'to result' | 11      | 20            | 97      | 20    |
| dihasilkan     | 'be resulted' | 6     | 5             | 45      | 4     |
| dihasilkannya  | 'the resulted' | 0   | 0             | 4       | 1     |
| konsekuensi    | 'consequence' | 5   | 13            | 1       | 1     |
| konsekuensinya | 'the consequence' | 1 | 2             | 0       | 0     |
| akihat         | 'cause'    | 129     | 110           | 57      | 9     |
| mengakibatkan  | 'to cause'  | 28      | 56            | 32      | 0     |
| diakibatkan    | 'be caused' | 2       | 3             | 8       | 0     |
| akibatnya      | 'the impact' | 16    | 4             | 8       | 0     |
| berakibat      | 'to have impact' | 4 | 1          | 4       | 0     |
| dampak         | 'impact'   | 82      | 37            | 25      | 0     |
| berdampak      | 'to have impact' | 19 | 6         | 3       | 0     |
| dampaknya      | 'the impact' | 7       | 1             | 3       | 0     |
| efek           | 'effect'   | 136     | 23            | 0       | 0     |
| efeknya        | 'the effect' | 2       | 2             | 0       | 0     |
| berefek        | 'to have effect' | 2 | 0           | 0       | 0     |
| Total          |            | 577     | 386           | 465     | 222   |

Table 6. Validation sample from subject 2

| Token          | Sentence Production | Prosody |
|----------------|---------------------|---------|
| hasil          | hasil yang diperoleh adalah meningkatnya jumlah penderita ebola | + |
| menghasilkan   | pupuk alami menghasilkan panen lebih besar | + |
| konsekuensi    | Sebagai konsekuensi, kamu tidak lulus ujian. | - |
| akihat         | Tiga orang tewas sebagai akibat tabrak-lari itu. | - |
| mengakibatkan  | meningkatnya kriminalitas diakibatkan oleh naiknya harga BBM | - |
| akibatnya      | Akibatnya, pabrik minuman keras itu disegel oleh polisi. | - |
| berakibat      | Lemahnya semangat belajar berakibat pada turunnya nilai. | - |
| dampak         | Banyak desa tenggelam sebagai dampak sembunan lumpur | - |
| berdampak      | Naiknya harga BBM berdampak pada langkahnya pasokan | - |
| dampaknya      | Dampaknya adalah turunnya perolehan suara. | - |
| efek           | Efek samping yang ditimbulkan cukup membahayakan. | - |
| efeknya        | Efeknya, tiga orang pemuda meninggal dunia | - |
| berefek        | Murahnya harga berefek pada persaingan tak sehat | - |
This is the 'safest' words of effect to use, avoiding writer's tone to look obvious. When the words of effect of this lemma <hasil> are added together, they rank first among other words of effect that are derived from other lemmas.

Table 7 confirms this:
Table 5 indicates that the derivation by non-affix is the most productive forms for each lemma. The distribution across text types has shown that all derivations are used except for sport texts. In this type of text, the only one derivations of extreme negative prosody are used konsekuensi (1 hit) and akibat (9 hits). Other derivations, which are extremely negative in prosody, are not used. The words of effect used in this corpus are mostly derived from stem hasil. As a result, it ranks the lowest among others in terms of the use of words of effect.

Validation from Production Test
The discussion on corpus data has shown that the only absolute prosody is for konsekuensi and konsekuensinya (negative prosody); the prosody for rest of the words of effect is flexible. To validate this, I conducted a production test. Ten respondents (Indonesian native speakers) participated in this test by filling out the questionnaire I devised. It is composed of a list of words of effect and the respondents are required to respond by writing a sentence using the word. Table 6 is the result of production test for one of the respondents.

The data in table 6 are obtained from respondent number two as a sample. However, each respondent shows the same tendency, which is to use evaluative words as a clue to prosody. From the production test, the result is binary: positive or negative. Neutral prosody is not found. In table 7, I summarized the result for all ten respondents.

The result presented in table 7 is similar to some of the previous findings; konsekuensi and konsekuensinya are always negative in prosody. The result for other words is almost similar, especially for words with extremeness toward negative prosody (akibat, dampak, efek and etc). A little variation is observed for the derivations of hasil where they are mostly positive in prosody (more than 80%). Although the gap between positive and negative prosody of hasil in the corpus is not significant, but it complies with the result on the production test that the positive prosody of hasil is more than the negative ones.

CONCLUSION
Findings in this paper have shown that among five lemmas of words of effect, only lemma hasil that has the orientation towards positive prosody. Derivations from lemma konsekuensi are absolutely negative in prosody, which means they only co-select effects that are negative in meaning, poor in impression or unexpected. The rest of the derivations (akibat, dampak, efek) are used for both positive and negative, but have tendency over negative prosody as well. The distribution of words of effect across text types indicate that the derivations of lemma hasil (hasil, menghasilkan and dihasilkan) are the most frequently used words of effect. The reasons are: 1) the words can be used for negative or positive effect, 2) the effect is neutral, 3) the effect is not yet known.

These findings are confirmed by the native speakers' intuition via production test. An interesting result is hasil is mostly used for effects that are positive. Although the corpus finding also shows similar tendency, the gap between negative and positive effect is not as high as in the production test. As for future studies, it is recommended that there is a comparison with another corpus, or the enrichment of the words of effect itself. The main recommendation of this study is for the developer of KBBI to incorporate the feature of semantic prosody in the dictionary entry or description.
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1 www.daring.kbbi.co.id
2 http://www.panl10n.net/indonesia/
3 A localization project undertaken by the Indonesian Agency for the Assessment & Applications of Technology, known as BPPT (Badan Pengkajian dan Penerapan Teknologi).
4 I here use the term co-text to refer to lexis and grammar contexts, which follows the tradition of corpus linguist. The term 'context' is also possible to use, but it might also cover situational contexts such as culture or pragmatics. The use of 'co-text' restricts the context to lexis and grammar. The title of this paper itself is self explanatory that the discussion will not go beyond semantics.
5 See Sinclair’s proposal for headword BUDGE (Sinclair, 2003, p. 90)
6 For the description of Indonesian affix(es), see Alwi, et al (1998), Sneddon (2000), Kridalaksana (2007), and Chaer (2008).
7 http://mcp.anu.edu.au
8 The reference is not present on phrase or sentence level, but is available on discourse level such as anaphoric, or cataphoric reference of pronoun.
9 N is capitalized here, as it represents the abstract form (phoneme). The surface forms might take n, ng and m as the orthographical forms, which correspond to [n], [ŋ], and [m] respectively as the allophonic variants of N. This convention has been used widely by Indonesian linguists. See ‘morphophonemic’ in Alwi, et al (1998), Chaer (2008) or Kridalaksana (2007).
10 Similar to N, R also represents the abstract form of orthographical variants r and l, which corresponds to the laterals [r] and [l] as the phonetic forms.